Fiscal Year 2011 National Environmental Information Exchange Network Grant Program

Solicitation Notice

U.S. Environmental Protection Agency
Office of Environmental Information
Office of Information Collection
Information Exchange and Services Division
Information Exchange Partnership Branch
July 2010

OFFICE OF
ENVIRONMENTAL
INFORMATION

Fiscal Year 2011 National Environmental Information Exchange Network Grant Program Solicitation Notice

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FY 2011 National Environmental Information Exchange Network Grant Program Solicitation Notice

Overview Information

Agency Name and Office: U.S. Environmental Protection Agency (EPA), Office of Environmental Information (OEI)

Funding Opportunity Title: FY 2011 National Environmental Information Exchange Network Grant Program

Announcement Type: Availability of Funding Solicitation Notice

Funding Opportunity Number: EPA-OEI-11-01

Catalog of Federal Domestic Assistance (CFDA) Number: 66.608

Dates: November 5, 2010 – Deadline for submitting proposals to EPA
July 31, 2011 – Expected Award of FY 2011 Exchange Network Grants

I. Funding Opportunity Description

EPA, states, territories, and tribes are working together to develop the Exchange Network (EN), a secure, Internet- and standards-based way to support electronic data reporting, sharing, and integration of both regulatory and non-regulatory environmental data. EN Partners exchanging data with each other or with EPA, should make the Exchange Network and the Agency's connection to it, the Central Data Exchange (CDX), the standard way they exchange data and should phase out any legacy methods they have been using. More information on the Exchange Network is available at www.exchangenetwork.net.

The Exchange Network Grant Program provides funding to states, territories, tribes, and inter-tribal consortia to develop the information technology and information management capabilities they need to actively participate in the Exchange Network. This grant program supports the exchange of environmental data and collaborative work within the Exchange Network and may also be used to fund the standardization, exchange and integration of geospatial information to address environmental, natural resource, and human health challenges.

I-A. Background

EPA and its state, tribal, and territorial partners continue to invest collaboratively to expand the Exchange Network. In 2007, the Exchange Network Leadership Council (ENLC) issued the Exchange Network Strategic Plan which described commitments to "building a state-of-the-art Environmental Information Exchange Network which will become the preferred method for exchanging environmental data in support of better environmental decision-making." The Plan's objectives include completing infrastructure, exchanging environmental data, and expanding use of the Network to support environmental decision-making. EN Grant Program applicants should access the EN Strategic Plan at http://www.exchangenetwork.net/ENStrategicPlan.pdf.

EPA expects the statutory authority for the Fiscal Year 2011 Exchange Network Grant program to be provided under the State and Tribal Assistance Grant (STAG) heading within EPA's Fiscal Year 2011 appropriation act. The FY 2011 President's Budget requests $10,000,000 for the National Environmental Information Exchange Network Grant Program. Funding of grant proposals under this Solicitation Notice is subject to the availability of program funds in the FY 2011 annual appropriation for EPA.

I-B. Grant Program Funding History and Results

FY 2011 is the tenth year of the Exchange Network Grant Program. From FY 2002 to FY 2010, EPA has provided approximately $154 million for state, tribal, and territorial awards and associated program support through the grant program. As of May 2010, all 50 states, 61 tribes and five territories have participated in developing the Exchange Network at some level. Fifty states, nine tribes, and one territory have established their Exchange Network Node and have exchanged data with another partner. For detailed information on state, territorial, and tribal activities please see the grant activities that are described at http://www.epa.gov/exchangenetwork/grants/index.html. For information on the progress of the data exchanges, please see http://www.exchangenetwork.net.

I-C. Assistance Activities

This Solicitation Notice requests that states, territories, tribes, and inter-tribal consortia develop and submit proposals to support the exchange of data and business needs of multiple, if not all, Exchange Network partners while being focused on the stated priorities of the Exchange Network. EPA will evaluate proposals based on the criteria in Section V.A. Applicants may propose projects that include activities other than those listed as examples, provided they are consistent with the EN strategic goals.

Following a determination of eligibility (see section III-A), EPA will evaluate eligible proposals based on criteria in Section V-A. Proposals must commit to and clearly describe the development of EN services reusable by other partners. For examples of past projects, refer to http://www.exchangenetwork.net/exchanges/. Appendix A of this Solicitation Notice offers more detailed information on data exchanges and priority EN project areas. Applicants are responsible for reading and complying with the instructions and criteria found in this Notice.

I-D. Environmental Results Supported by Assistance Activities

EPA's mission is to protect human health and the environment. Timely access to information supports strong environmental decision-making and improves the ability of EPA, with its state and tribal partners, to carry out that mission. The Exchange Network helps states, territories, tribes, and EPA share environmental information more efficiently and effectively over the Internet. Efficient sharing of high-quality data among EN partners strengthens their ability to make sound environmental decisions including improved priority setting and resource targeting.

Proposals under this Solicitation must clearly demonstrate support of the EPA 2006-2011 Strategic Plan, Cross-Goal Strategy of Innovation and Collaboration, Objective of "Collaborating on Common Goals." (EPA's 2006-2011 Strategic Plan can be found at:
http://www.epa.gov/ocfo/plan/2006/entire_report.pdf)

It is EPA policy to directly link work supported by assistance agreements to the Agency's mission and Strategic Plan. Grant proposals, assistance agreements, and work plans must all lead to outcomes that support environmental results. EPA recognizes that Exchange Network projects do not *directly* produce environmental results, and will therefore evaluate proposals based on the major technical and non-technical outputs and outcomes of the proposed work. Each proposed goal is expected to demonstrate a link of at least one outcome leading to an expected environmental result.

I-E. Program Priorities

The primary outcome expected from the Exchange Network assistance agreements is improved access to, and exchange of, high-quality environmental data from public and private sector sources. With this outcome in mind, proposals should demonstrate support for and results toward the tiered EN program priorities below. Higher scoring evaluations will potentially result from well-articulated projects supporting at least one Tier 1 activity.

> *Examples of Project Outputs:*
>
> ➤ development of schema
>
> ➤ development of publishing tools
>
> ➤ issuance of RFPs
>
> *Examples of Project Outcomes:*
>
> ➤ improving the timeliness and accuracy of environmental data
>
> ➤ reducing burden and costs associated with data management and reporting
>
> ➤ supporting better decision-making by building data access for environmental professionals and the public
>
> ➤ facilitating place-based decision-making through the inclusion of quality locational data which transcends jurisdictional boundaries and reflects appropriate geographies

Tier 1. **Activities to Expand Data Exchanges and Data Availability through National or Regulatory Systems Prioritized by the Exchange Network Governance:**
➤ Completion of sustained flows for the Underground Injection Control Database (UIC), Air Quality System (AQS), Resource Conservation and Recovery Act Information System (RCRAInfo) and the Safe Drinking Water Information System (SDWIS) Exchange. Drinking Water data exchange applications that go beyond the traditional SDWIS data exchange to include compliance monitoring data (i.e. - parametric data, sample schedules and other data) must be written for multiple state/tribe participation and include activities that will enable all participating partners to share SDWA compliance monitoring data with EPA

Tier 2. **Activities to Expand Data Exchanges and Data Availability to Exchange Network Partners**:
➤ Completion of sustained flows for national and priority system data exchanges, beyond those noted above and as identified in section II of Appendix A, by the end of the project's period
➤ Expansion of national and priority system data exchanges and/or exchanges, already deployed by the applicant, such as Large Aquatic Ecosystems (LAEs), to other network partners through collaborative re-use of existing tools and services
➤ EN data access to allow EN partners and the public to integrate, link, and analyze information from sources across the Network
➤ Implement climate change/greenhouse gas emissions data exchange

➢ Implement a Cross-Media Electronic Reporting Rule (CROMERR) system upgrade meeting *all* of the following criteria:
  o Previously submitted in a CROMERR application to EPA
  o Proposed re-use of an existing, approved CROMERR solution
  o Will require no more than $100,000 of the Exchange Network Grant project funding

Tier 3. **Activities to Expand Innovative Flow of Environmental Information**:
➢ Innovative projects in support of sustained non-regulatory data flows, such as emergency response data, nationally significant geospatial data sets developed under OMB circular A-16 ("Coordination of Geographic Information and Related Spatial Data Activities"), substance registry services flows, open dump data exchanges, surface coal mining data integration and reporting, and water quality laboratory data reporting, that demonstrate potential applicability to multiple EN partners
➢ Geospatially enable existing national and priority system data exchanges and develop data dictionaries for state and tribal systems and load them into the EPA's Data Registry for cross-walking with existing EN data standards
➢ Establishment of *new*, Node 2.0-compliant nodes or node-clients
➢ Develop or integrate Open Geospatial Consortium (OGC) standards-based software for node installations and across the network to publish data flows in formats that may include WMS, WFS, SOS, and AtomPub

Please note that grant resources are not available in FY 2011 to support upgrading existing nodes to the Node 2.0 specification. For applicants that propose CROMERR enhancements, their narrative must confirm that they have previously submitted an application for CROMERR approval and describe how they plan to re-use currently approved solutions developed by other states (e.g., OK, DE, IN, TX, etc.) or the approved Central Data Exchange solution developed by EPA. Proposed budgets within the EN grant application must appropriately reflect the adoption of an existing solution rather than the development of a new solution and are limited to $100,000 for proposed CROMERR activities within the application. Applicants should refer to www.epa.gov/cromerr for examples of approved state solutions and the Central Data Exchange solution. Approved CROMERR applications are posted on this website with other detailed program information. Applicants should also note that their narrative must describe the project in specific technical and programmatic detail to receive a positive evaluation.

EPA also wishes to clarify how it will evaluate innovative projects that integrate national and priority system flows such as the Homeland Emergency Response System (HERE). If, as part of an innovative project, the applicant will be implementing a new national or priority system data flow for SDWIS, UIC, AQS, or RCRA Info, EPA will score this proposal as being in Tier 1. For example, a proposal that includes completion of the RCRAInfo Handler data exchange and integration of this exchange into HERE would be considered as falling in Tier 1. If, on the other hand, the applicant is implementing an application such as HERE that is integrating existing data flows, and the proposal does not otherwise include any of the activities included in Tier 1, then EPA would score this proposal as being in Tier 2. For example, a proposal includes two goals: goal 1 is implementation of HERE, integrating an existing RCRAInfo Handler data exchange and goal 2 is implementation of WQX. Because this proposal does not implement any new Tier

1 exchanges nor include any other Tier 1 work, it would net a Tier 2 score. If neither Tier 1 nor Tier 2 activities are proposed, EPA would score the proposal as being in Tier 3.

Applicants may wish to reference the ENLC's Geospatial Strategy Report and white paper (http://www.exchangenetwork.net/exchanges/cross/GeospatialStrategyReport_FINAL.pdf) on issues related to exchanging geospatial data over the Network and promoting the use of Geospatial Mark-up Language (GML) for the exchange of geographic features (points, lines, polygons) over the Exchange Network. EPA endorsed the exploration of Geospatial "Really Simple Syndication" (GeoRSS) GML to address most of the exchange of geospatial features over the EN. Applicants can strengthen their Network project proposals by explaining how their proposed data exchanges are linked to national efforts to improve the transmission and sharing of geospatial data and/or geo-referenced data underway to support of environmental programs.

In accordance with the EN Interoperability Policy, applicants should commit within their proposals to re-use existing, registered flows that meet partner requirements for sharing similar data over the EN and register new exchange flows and flow components as they develop them. Applicants should commit to re-use existing EN tools or share new tools with EN partners. A grant term and condition will be included in the assistance agreement to ensure any Node developed under these past agreements is registered within the Exchange Network Discovery Service (ENDS) version 2.0. All grants issued under this Solicitation Notice will include this term and condition.

All grant recipients should register their reusable components (e.g., XML schema, web services, and reusable code) in the Reusable Component Services (RCS). RCS will harvest Node and data flow information from ENDS and allow for the creation of associations, where applicable, to other related assets, such as web services or XML schema. Reusable services, through ENDS and RCS, will be available to all EN partners.

I-F. Partnership Agreements
Applicants may propose collaborative activities such as:
- pursuing priority activities in formal collaboration with other Exchange Network partners;
- exchanging data not previously available or shared between partners, e.g., environmentally-related human health data; geospatial data; data needed to fill current data gaps; or data related to pollution prevention practices, technologies, or case studies; and
- exchanging data needed to address environmental issues across a multistate region or in support of a Large Aquatic Ecosystem (e.g., for the Great Lakes, Long Island Sound, Chesapeake Bay, Puget Sound, U.S./Mexico border, Gulf of Mexico). One example of such a project would be to use the Exchange Network to share watershed monitoring data and the analytical results produced by watershed analysis tools.

Project narratives and budgets should demonstrate why additional resources available through a partnership assistance agreement are needed due to project complexity and/or vital collaborative activities in support of the partners. See Section III-C, "Eligibility Criteria for Partnership Proposals," before making any financial commitments to proposal partners or listing these partners in your proposal.

II. Award Information

The Catalog of Federal Domestic Assistance number for the Exchange Network Grant Program is 66.608 (http://www.cfda.gov).

II-A. General Information

In FY 2011, EPA expects to award an estimated $10,000,000 for 40 to 50 grants of up to $350,000. The exact number of grants will depend on the amount of EPA's appropriation for the grant program, the number of proposals submitted to EPA by the proposal deadline, the amount requested to produce the proposed results, and the competitive review of the proposals received.

EPA anticipates most of the awards will be in the $50,000 to $200,000 range. **Awards to a single applicant will not exceed $200,000. EPA may make a limited number of awards to collaborative, partnership assistance agreements. Budgets for these projects cannot exceed $350,000.** EPA remains committed to a minimum award to tribal assistance agreements of approximately ten percent of the appropriated funds. The amount awarded to tribes may be greater than this minimum level, depending on the merit of tribal proposals and on the competitive review of all proposals. The standard period of performance for each project will be two years. EPA expects to announce the FY 2011 Exchange Network Grant program awards during March 2011 and award the grants by July 2011.

In appropriate circumstances, EPA reserves the right to partially fund applications by funding discrete portions or phases of proposed projects. If EPA decides to partially fund a project, it will do so in a manner that does not prejudice any applicants or affect the basis upon which the application or portion thereof, was evaluated and selected for award, and therefore maintains the integrity of the competition and selection process.

Additional Awards: EPA reserves the right to make additional awards under this announcement, consistent with Agency policy, if additional funding becomes available after the original selections. Any additional selections for awards will be made no later than six months from the date of the original selections.

II-B. Types of Assistance

Assistance agreements funded through the Exchange Network Grant Program may be issued in various forms. EPA has the authority to determine each of these forms, but will consider requests from each applicant on the final award elements of the assistance agreement.

EPA uses assistance agreement vehicles to transfer funding and services to a recipient to accomplish a public purpose. Unlike contracts, grants are structured and managed to ensure the project benefits the recipient toward the identified public purpose. In the case of the Exchange Network, Assistance agreements are structured to allow recipients to develop needed infrastructure, systems, and capacity to electronically report environmental information and participate fully on the Network. Applicants should identify and justify requests for the various structural elements available within their assistance agreement to best achieve their project and environmental results. EPA will consider applicant requests regarding the following options:

- **Grant or Cooperative Agreement**. Grants represent direct funding to a recipient to support an identified project with defined environmental results. A cooperative agreement

anticipates substantial involvement from EPA, in collaboration with the recipient, to achieve project results. If the recipient does not identify a preference, EPA's default award will be a cooperative agreement.

- **Direct Funding or In-Kind Services**. EPA will consider grantee requests to use all or a portion of awarded grant funds to provide in-kind services to the recipient through an EPA contract vehicle. Applicants should request and justify project efficiencies to be expected from this approach.
- **Single Grant or Performance Partnership/Consolidated Grants**. An applicant whose organization has an existing Performance Partnership Grant (PPG) with EPA may request any new grant recommended for funding be incorporated into the PPG. Similarly, a territorial applicant whose territory has a Consolidated Grant (CG) with EPA may request that new awards be incorporated into the CG. Absent a request from the recipient for inclusion within a PPG or CG, EPA will award the grant in a stand-alone vehicle.

II-C. Funding Restrictions

Applicants may propose EN project funding for costs associated with personnel salaries and fringe benefits, Intergovernmental Personnel Act Agreements (IPAs) travel, travel related to Exchange Network activities, equipment, supplies, contractual costs, in-kind services provided by EPA, and indirect costs. Applicants may *not* use EN funding for the following functions (see Appendix B for definitions.):

- **Construction costs.**
- **Operations and maintenance** of previously developed and implemented EN projects.
- **Workshops and Conferences** that are not initiated, advertised, and conducted for the benefit of the recipient and other state, tribal, territorial, or local representatives or public participants or are conducted primarily for EPA's benefit.
- **Pre-Award Costs** not previously requested to cover pre-award costs incurred 90 days or less before the award date.
- **Management Fees** in excess of the direct costs and indirect costs at the rate approved by the applicant's cognizant audit agency, or at the rate provided for by the terms of the agreement negotiated with EPA.

III. Eligibility Information

III-A. Eligible Applicants

Eligible applicants for the Exchange Network Grant program include states, U.S. Territories (i.e., American Samoa, the Commonwealth of the Northern Mariana Islands, the District of Columbia, Guam, Palau, Puerto Rico, the U.S. Virgin Islands), federally recognized Indian tribes and native villages, and inter-tribal consortia of federally recognized tribes (e.g., the Northwest Indian Fisheries Commission because their membership is primarily federal recognized tribes and they have sufficient controls to ensure tribes will benefit from funding).

Other entities, such as regional air pollution control districts, some public universities, and local governments that are delegated to implement environmental programs from their state in compliance with 40 CFR may apply for assistance if they are agencies or instrumentalities of a

state under applicable state laws. These entities, as well as other entities that submit applications asserting they are agencies or instrumentalities of a state, must provide with the proposal a letter from the appropriate state Attorney General certifying that the applicant is an agency or instrumentality of the state. If the application does not contain the required documentation, the proposal will not be considered.

EPA recognizes that some EPA programs are delegated to local governments that are responsible for reporting data to EPA. However, local governments that are delegated to implement EPA programs but are not instrumentalities of the state are not eligible to apply. EPA encourages such entities to partner with a state to allow for their data to be reported and shared through the Exchange Network. Interstate commissions and other interstate entities are not eligible to apply and are also encouraged to partner with a state.

Examples of Eligible Project Leads:

➢ State Department of Environmental Quality

➢ Territorial Environment Division

➢ Tribal Council on behalf of two or more tribal environmental and/or health agencies

➢ State Department of Public Health

➢ Tribal Water Quality Administration

➢ State Office of the Chief Information Officer

➢ Regional Air Quality Board delegated authority for the air program under 40 CFR

➢ State university where the university or the university system is formally designated as an instrumentality of the state

EPA encourages applicants with questions about eligibility to seek clarification by contacting Ryan Humrighouse, Exchange Network Grants Program Manager, at (202) 566-1680 or humrighouse.ryan@epa.gov and to attend Exchange Network Users meetings to learn about and discuss Exchange Network projects and technology. Applicants not meeting the eligibility criteria may consider collaborative work with eligible organizations. EPA will only evaluate proposals with eligible entities identified as the lead implementing agency for the project.

III-B. Threshold Criteria for Eligibility

These are requirements that, if not met by the time of proposal submission, will result in elimination of the proposal from consideration for funding. Only proposals from eligible entities (see above) will be evaluated against the ranking factors in Section V of this announcement. Applicants deemed ineligible for funding consideration as a result of the threshold eligibility review will be notified within 15 calendar days of the ineligibility determination.

1.a.   Proposals must substantially comply with the proposal submission instructions and requirements set forth in Section IV and Appendix C of this announcement or else they will be rejected. Where a page limit is expressed in Section IV and Appendix C with respect to the project narrative, pages in excess of the page limitation will not be reviewed.

b. Proposals must be postmarked or submitted as specified in Section IV and Appendix C of this announcement on or before the proposal submission deadline published in this announcement. Applicants are responsible for ensuring that their proposals are submitted by the deadline.

c. Proposals postmarked or submitted after the submission deadline will be considered late and returned to the sender without further consideration unless the applicant can clearly demonstrate that it was late due to EPA mishandling.   Applicants should confirm receipt of their proposal with Ryan Humrighouse (humrighouse.ryan@epa.gov) as soon as possible after the submission deadline – failure to do so may result in your proposal not being reviewed.

2. EPA will not fund any activities or deliverables for which the entity has previously received funds. Applicants must detail differences between current grant proposals and previous grant awards to avoid confusion. If a proposal is similar to a previously funded activity, applicants must briefly discuss how previously funded activities differ from current activities proposed or how the current proposal will complement or build on past or ongoing accomplishments.

3.   All **state government applicants** <u>must</u> provide an Implementation Plan of two to three pages, explaining how their state will implement all national and priority system data exchanges (for which the applicant is responsible) identified in Section II of Appendix A. EPA encourages applicants to coordinate with other agencies within their state to provide a comprehensive, state-wide Implementation Plan for all national and priority data exchanges within the Exchange Network.   Territorial and tribal applicants may wish to include an Implementation Plan within their applications to provide increased details on how the specific proposed project will contribute to their long-term involvement within the Exchange Network.   These pages do not count as part of the 10-page maximum for the project narrative.

At a minimum, this statement *must* address the following questions and topics:

> *Examples from Implementation Plans:*
>
> ➢ The NEI flow has been an annual flow for DEP. Our last flow was in July 2009. DEP contractors will remap NEI data to the EIS template. The new EIS flow is expected by March 2010.
>
> ➢ TRI data flows to DEQ as it is released by EPA. The Dept of Emergency Management connects to DEQ's Node to retrieve and us the data (July 2009).
>
> ➢ WQX flow project in progress. Data conversion of old surface water data under way. Automated flows expected by June 2010.
>
> ➢ DEP is not the agency that collects or submits beach notification data. DEP is working with the Dept of Public Health to ensure the EN is used for this flow.

- For which of the eleven national and priority system data exchanges is the applicant flowing data to EPA or receiving data from EPA using the Exchange Network? What was the date of the applicant's most recent data exchange for each of these flows?
- If the date of the applicant's most recent data flow for any of the data exchanges identified above was prior to July 1, 2009, the applicant must explain why it has discontinued the exchange. Does the applicant plan to exchange data again? What is the target date for the next data exchange?

- For each national and priority system data exchange for which the applicant has not yet flowed data, is the applicant delegated for the programs and does the applicant plan to flow data by the end of FY 2012. What is the target date for flowing data? Please provide interim milestones (e.g., mapping state data to XML schema).
- If there are any national and priority system data exchanges to which the applicant does not plan to flow data, the applicant must explain why it does not plan to participate in the exchange. Examples include: applicant not delegated to implement program, applicant enters data directly into EPA system (e.g., RCRAinfo) and does not have a system of its own, EPA system will not be ready to accept data, and other identified business needs.
- If the applicant is aware of any systemic impediments to fully implementing all national and priority system data exchanges by the end of 2012, it should describe these impediments along with any solutions the applicant may have.
- The applicant should provide any pertinent information that will help EPA evaluate its Implementation Plan.

EPA will not review state proposals that do not include this Implementation Plan. The Implementation Plan must contain sufficient detail to demonstrate a strategic approach to fully implementing the Network for all applicable national and priority system flows.

4. EPA will not review projects with project periods in excess of two-years, proposals from a single applicant that have budgets which exceed $200,000 or multi-partner, collaborative proposals that have budgets which exceed $350,000.

5. EPA will not review a proposal or a part of a proposal that requests funding to upgrade an existing node to the Node 2.0 specification.

III-C. Eligibility Criteria for Partnership Proposals

EPA will consider a higher funding limit for projects that include more than one Exchange Network partner. For these, one eligible entity must lead the collaborative effort and assume program and financial responsibility for the project. Partners must state their support, through a letter of intent or other written mechanism included within the proposal, for specific project activities within the partnership proposal.

The lead applicant for a partnership proposal must demonstrate within their application the project's support for Exchange Network priorities and explain how the partnership components justify a need for the additional partnership funding. Coalitions formed from within a single state, territorial, or tribal government (e.g., coalition of environment and health departments within a state) will not be considered eligible partnerships and will be held to the maximum funding for a single-jurisdiction grant, which in FY 2011 is $200,000.

III-D. Cost Sharing or Matching

No cost-sharing or matching of funds is required by applicants.

IV. Proposal and Submission Information

Applicants for the FY 2011 Exchange Network Grant program must submit a proposal package to EPA by November 5, 2010. EPA will accept project proposals for National Environmental Information Exchange Network grants in one of two ways: 1) a hardcopy mailed or delivered proposal, including one original, two copies or; 2) a proposal submitted electronically through the grants.gov website. Initially, EPA will require applicants to submit a streamlined proposal which provides needed information to facilitate the evaluation of the proposed project, including, but not limited to, the SF-424, the project narrative, proposed budget, and qualifications of the key personnel. Only applicants with proposals that EPA selects for funding will need to submit other official forms. EPA will confirm receipt of each proposal with an e-mail to the contacts listed in the cover letter. Applicants may obtain a copy of the SF-424 from the Office of Grants and Debarment website (http://www.epa.gov/ogd/AppKit/application.htm).

Proposals must include a cover letter signed by an authorized organizational representative (AOR) who, by virtue of their position, is able to obligate staff time on the proposed project. The specific requirements of the proposal package and each document included with the package are available in Appendix C, which outlines the format for the project narrative (no more than ten-single-spaced pages) and provides more detailed proposal instructions. The ten-page limit does not include the 2-3 page Exchange Network Implementation Plan required in section III-B, above. **EPA will not review pages beyond the first ten pages of the project narrative**.

Highly scoring applications will include within the ten-page project narrative a description of:
- project outputs, outcomes, and environmental results, including a plan (with intermediate milestones) that allows the applicant to track and report progress toward achieving the project's expected goals;
- project roles and responsibilities for the applicant and any partners included in the project;
- how collaboration between IT/IM staff and environmental/health programs to integrate project outputs into the programs' business operations;
- applicant's commitment to re-use existing EN tools or share new tools with EN partners;
- amounts budgeted for each goal; and
- summarized qualifications of the project manager and other key personnel and the applicant's resources which would contribute to project success.

Upon notification of the EPA's funding recommendation, applicants may be required to submit additional or updated documents to complete the funding package. EPA will provide further instructions for submittal of additional or updated documents at that time.

IV-A. Submission Date and Time

Signed and completed proposal packages as described in Appendix C must be sent electronically via grants.gov, postmarked or delivered by an overnight courier service **no later than 11:59 PM Eastern Standard Time, November 5, 2010**. Proposal packages postmarked, sent electronically via grants.gov, or delivered by an overnight courier *after* the published closing date and time will be returned to the sender without further consideration.

IV-B. Intergovernmental Review
This funding opportunity is *not* subject to Executive Order (EO) 12372, "Intergovernmental Review of Federal Programs."

IV-C. Partnership Agreements
EPA awards funds to one eligible applicant as the recipient even if other eligible applicants are named as partners or co-applicants or members of a coalition or consortium. The recipient is accountable to EPA for the proper expenditure of funds and attainment of program and environmental results.

Grantees may provide subgrants or subawards to fund partner work within the overall project, provided the recipient complies with applicable requirements for subawards or subgrants including those contained in 40 CFR Parts 30 or 31, as appropriate. Successful applicants cannot use subgrants or subawards to avoid requirements in EPA grant regulations for competitive procurement by using these instruments to acquire commercial services or products from for-profit organizations to carry out its assistance agreement. For more detailed information on partnership agreements, contracts, and subawards, please see Appendix E.

EPA panels will review applicants' qualifications, past performance, and reporting history, and will consider, as appropriate and relevant, the qualifications, expertise, and experience of formal partners. Applicants should detail their own project roles and responsibilities, experience and past performance and those of their formal partners. Section V, below, describes in detail the evaluation criteria and process EPA will use to make selections under this Notice.

IV-D. Pre-proposal Assistance and Communications
In accordance with EPA's Assistance Agreement Competition Policy (EPA Order 5700.5A1), EPA staff will not meet with individual applicants to discuss draft proposals, provide informal comments on draft proposals, or provide advice to applicants on how to respond to ranking criteria. Applicants are responsible for the contents of their proposals. However, EPA will respond to questions in writing, including electronic mail, from individual applicants regarding threshold eligibility criteria, administrative issues related to the submission of the proposal, and requests for clarification about the announcement. Applicants can find answers to frequently asked questions, helpful tips, and links to the required application forms at http://www.epa.gov/exchangenetwork/grants/index.html

IV-E. Confidential Business Information
In accordance with 40 CFR 2.203, applicants may claim all or a portion of their proposal as confidential business information. EPA will evaluate confidentiality claims in accordance with 40 CFR Part 2. Applicants must clearly mark proposals or portions of proposals they claim as confidential. If no claim of confidentiality is made, EPA is not required to make the inquiry to the applicant otherwise required by 40 CFR 2.204(c) (2) prior to disclosure. The Agency, however, considers competitive proposals confidential and protected from disclosure prior to the completion of the competitive selection process.

V. Proposal Review Information

V-A. Evaluation Criteria
EPA review panels will evaluate and score proposals from eligible applicants using the following criteria. The EPA Selection Official will make the final funding decisions based on an applicant's score and other factors as discussed in section V-B. Appendix D provides an example of a project narrative.

Project Outputs and Outcomes Leading to Environmental Results (20 points): EPA will evaluate the clarity of project outputs, outcomes and environmental results (such as improved environmental decision-making) and of the method for tracking them using these criteria:

- Does each goal in the proposal include at least one outcome that leads to an environmental result? These might include outcomes such as improving the timeliness, completeness and accuracy of environmental data; reducing the burden and costs associated with data management and reporting; or supporting better environmental decision making by enhancing data access for environmental professionals and the public, as well as providing high quality locational data, facilitating place-based approaches and community-oriented initiatives. (10 points)
- Does the proposal include a plan that allows the applicant to track and report to EPA progress towards achieving the project's expected outputs and expected outcomes leading to environmental results? Each grant-funded goal, such as a completed data flow, should have several outputs scheduled over the project period leading to the goal. (10 points)

Project Feasibility and Approach (25 points): EPA will evaluate the feasibility of proposed projects using the following criteria:

- Does the design of the project appear to be within the technical capabilities of the applicant, and compatible with EN technology? (10 points)
- Does the proposal clearly describe project roles and responsibilities for the applicant and, for collaborative projects, each partner? (5 points)
- Does the project narrative clearly describe how the applicant's IT/IM staff are collaborating with environmental or health programs to integrate project outputs into the programs' business operations, thereby increasing the likelihood that the project will achieve its desired outcomes and results. (5 points)
- Applicants must affirm a commitment to re-use existing EN tools or share new tools with EN partners and register, where appropriate, into ENDS or RCS at www.epa.gov/sor. (5 points)
  - o For existing flows, the applicant will use and adapt existing tools
  - o For innovative flows, projects must demonstrate that they will be net-centric and result in the development of reusable services for the Exchange Network.

Exchange Network Priorities (30 points)**:** EPA will evaluate how a proposal advances the Exchange Network objectives (Section I-D) and the consistency of proposed work with EN priorities (Section I-E). More details on data exchange activities are in Appendix A or the EN website at http://www.exchangenetwork.net/exchanges/.

Under this criterion, applicants are advised that only well-articulated projects that address at least one Tier 1 activity will be potentially eligible to receive the maximum points under this factor.

Applicants are advised that if their proposal does not address any Tier 1 activities, it will only be eligible for a maximum of 20 points (if Tier 2) under this factor. Similarly, projects only proposing Tier 3 activities will be eligible for a maximum of 15 points. Specific criteria include:

- Does the proposal commit to a Tier 1 (30 points) project involving:
  - o Completion of sustained flows for the Underground Injection Control Database (UIC), Air Quality System (AQS), Resource Conservation and Recovery Act Information System (RCRAInfo) and the Safe Drinking Water Information System (SDWIS) Exchange. Drinking Water data exchange applications that go beyond the traditional SDWIS data exchange to include compliance monitoring data (i.e. - parametric data, sample schedules and other data) must be written for multiple state/tribe participation and include activities that will enable all participating partners to share SDWA compliance monitoring data with EPA

- Does the proposal commit to a Tier 2 (20 points) project involving:
  - o Completion of sustained flows for national and priority system data exchanges not included in Tier 1 by the end of the project's period
  - o Expansion of national and priority system data exchanges and/or exchanges, already deployed by the applicant, such as Large Aquatic Ecosystems (LAEs), to other network partners through collaborative re-use of existing tools and services
  - o EN data access services to allow others to use information (see Appendix B)
  - o Climate change and greenhouse gas emissions data exchange
  - o Bringing existing electronic reporting systems into compliance with CROMERR using existing solutions within the applicant's previously submitted CROMERR application

- Does the proposal commit to a Tier 3 (15 points) project involving:
  - o Innovative projects developing sustained non-regulatory data exchanges, such as emergency response data and nationally significant geospatial data sets developed under OMB circular A-16 ("Coordination of Geographic Information and Related Spatial Data Activities"), substance registry services flows, open dump data exchanges, surface coal mining data integration and reporting, and water quality laboratory data reporting.
  - o Geoenabling an existing national and priority system data exchange and developing data dictionaries for state and tribal systems and loading them into the EPA's Data Registry for cross-walking with existing EN data standards
  - o Establishing new, Node 2.0-compliant nodes
  - o Develop or integrate Open Geospatial Consortium (OGC) standards-based software for node installations and re-use across the network to publish data flows in formats that may include WMS, WFS, SOS, and AtomPub

Budget, Resources and Key Personnel (15 points): EPA will evaluate: (1) the budget's appropriateness including the amount allocated to each goal and its adequacy to support and complete the proposed work; and (2) the qualifications of the project manager and other key personnel and the applicant's resources to perform the project.
- Does the proposal include an appropriate amount budgeted for each goal in the project narrative?
- Is the budget sufficient to support completion of the work within two years?

- Does the proposal document the qualifications of the project manager and other key personnel to perform the proposed work, and does the applicant demonstrate it has the resources to perform the project?

Past Performance (10 points): EPA will evaluate applicants on their progress towards achieving the expected results under prior Exchange Network grants and as reported in Exchange Network Grant semi-annual progress reports (past recipients who have a poor semi-annual reporting record will receive a reduced score). If an applicant does not have prior Exchange Network grants then they will be evaluated based on their progress towards achieving the expected results under other prior federal agency assistance agreements (an assistance agreement is a grant or cooperative agreement and not a contract) performed within the last 3 years.

Please note that in evaluating applicants under this criterion, the Agency will consider the information provided by the applicant and may also consider relevant information from other sources including agency files and prior/current grantors (e.g., to verify and/or supplement the information supplied by the applicant). If you do not have any relevant or available past performance or reporting information, please indicate this in the proposal and you will receive a neutral score for this criterion of 5 points. If you do not provide any response for these items, you may receive a score of 0 for these factors

V-B. Review and Selection Process

EPA review panels will base their evaluation and ranking of proposals on the criteria listed in section V-A. The EPA reviewers will submit comments and rankings and make funding recommendations to the selection official, the Assistant Administrator of the Office of Environmental Information (OEI) or his or her designee who will make the final funding decisions. The EPA selection official may decide to partially fund a project to focus limited resources only on those demonstrated goals and results of each project that support the stated Exchange Network priorities within this Solicitation Notice.

Other Evaluation Factors: In making the final funding decisions from among the most highly scored proposals, the EPA selection official may consider one or more of the following factors*:*
- EPA programs' ability and/or readiness to support proposed project activities;
- geographic distribution of funding;
- prioritization of data exchange and priority activities over other assistance activities;
- ensuring participation in the Exchange Network by federally recognized Indian tribes and inter-tribal consortia; and
- EPA's capacity to provide any requested in-kind services.

V-C. Anticipated Award Dates

EPA anticipates that it will announce selection decisions in or around March 2011. EPA plans to issue the awards by July 2011.

VI. Award Administration Information

VI-A. Award Notices

EPA will notify all applicants, by telephone or electronic or postal mail, of their status in or around March 2011. The notification of a full or partial funding recommendation, which advises the applicant that it has been preliminarily selected and is being recommended for award, is not an authorization to begin work. Notifications will detail final proposal requirements and other required information needed from those applicants preliminarily recommended for award. EPA will give applicants instructions and a due date for submittal of the final proposal package.

VI-B. Administration and National Policy Requirements

Each assistance agreement will include a set of Administrative Terms and Programmatic Conditions, such as requirements for electronic funding transfers, additional financial status reporting, and limitations on payments to consultants, and application of indirect cost rates. These terms and conditions form the basis for the final award of Exchange Network grant funding. Failure to concur with the included terms and conditions will invalidate the award.

VI-C. Reporting

Semi-Annual Performance Progress Reports: Reporting is an important obligation that award recipients agree to undertake when they sign an assistance agreement. Both EPA and recipients are accountable to Congress and to the public for the proper and effective use of Exchange Network assistance funds. Award recipients will submit semi-annual and final technical reports through EPA's Central Data Exchange (CDX) using a web form that replicates the former reporting form. EPA will provide successful applicants with detailed instructions for registering with and reporting through CDX at the time of award.

VI-D. Dispute Resolution Provision

Assistance agreement competition-related disputes will be resolved in accordance with the dispute resolution procedures published in 70 FR (Federal Register) 3629, 3630 (January 26, 2005) which can be found at http://www.epa.gov/ogd/competition/resolution.htm. Copies of these procedures may also be requested by contacting Ryan Humrighouse at 202-566-1680 or humrighouse.ryan@epa.gov.

VII. Agency Contacts

The primary EPA Headquarters point of contact is:

Ryan Humrighouse
Exchange Network Grant Program Manager
Office of Information Collection
Office of Environmental Information
Phone: (202) 566-1680
Facsimile: (202) 566-1684
Email: humrighouse.ryan@epa.gov

Mailing Address:

Ryan Humrighouse
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW (2823-T)
Washington, DC 20460

Physical Address (*for overnight, or courier deliveries*):

Ryan Humrighouse
U.S. Environmental Protection Agency
1301 Constitution Avenue, NW (Rm 6416E)
Washington, DC 20004

Appendix A

Suggested Exchange Network Data Exchange Activities

This Appendix outlines the data exchange activities that applicants should consider when applying for the FY 2011 National Environmental Information Exchange Network Grant Program. The Appendix contains four subsections: Definition of Standard Milestones for EPA Information System or Data Exchanges, National and Priority System Data Exchanges, Non-Regulatory Data Exchanges and Innovative Data Exchanges. This Appendix highlights the EPA Program Office activities related to flows and provides suggested activities for applicants to consider when developing their proposal.

The Exchange Network Grant Program supports a variety of activities, including the development of common data standards, formats, and trading partner agreements for sharing data over the Exchange Network and implementation of collaborative, innovative uses of the Exchange Network. It also supports the standardization, exchange, and integration of geospatial information to address environmental, natural resource, and related human-health issues.

As part of the standardization mentioned above, grantees must utilize data standards that have been previously approved by the Exchange Network Leadership Council (ENLC) as they develop Exchange Network products and services. In most cases, the data standards needed in implementation will have previously been incorporated in the major EPA systems and Exchange Network data flows. These data standards can simply be re-used. For detailed information on each ENLC approved standard please refer to the Exchange Network website at http://www.exchangenetwork.net/standards/index.htm. There is also a separate document (located at the web site cited above) to assist you with understanding how these standards have been implemented within the specific EPA systems. Please note that in some cases you may need to identify areas for new data standardization. If so, please indicate in your proposal the data standards needed and project the funding required to support that work.

The success of the Exchange Network will ultimately depend on how EPA and its partners use the data and information that are exchanged to enhance decision-making and programmatic operations. EPA encourages all partners to use the Exchange Network to meet their business needs. This could include exchanging data that supports national environmental systems, as well as data that support particular state, territorial, and tribal needs. Innovative projects must demonstrate that they will be net-centric and result in the development of reusable services for the Exchange Network. These reusable services and components should be registered into the Exchange Network Discovery Service (ENDS) or into the Reusable Component Services (RCS), by contacting Chris Clark, ENDS Administrator, at (202) 566-1693 or Lico Galindo, RCS Administrator, at (202) 566-1252.

I. Definition of Standard Milestones for EPA Information Systems or Data Exchanges

This section will assist EPA Programs and Exchange Network partners in better understanding the EPA Program Office activities and establish consistency across all data flows by further defining each milestone. These activities may be already completed, in process or planned at the time of release of this guidance.

Test XML Schema - (Version X) - Schema has completed EPA testing and is ready for limited release to Exchange Network Partners that will support the testing process with EPA to identify any potential issues from real data exchanges. This includes the use of real data sets in XML instance documents. At this stage, Partners will have the constructs for mapping data to their own systems and sufficient time would be needed by these partners to complete that process once the schema(s) is released.

Release final XML Schema – (Version X) - Schema has undergone conformance review and is ready for posting to the Exchange Network Web Site for access by all Exchange Network Partners (www.exchangenetwork.net).

National database available for testing - National database is ready for testing to exchange data in a format that complies with agreed upon standards and rules. For example, the database can support testing the receipt and processing of XML instance documents or a converted format as part of the exchange process.

Availability of EPA Node services for testing - EPA Node services include all central services the program offices need or choose that enable a more efficient data exchange among exchange partners. Examples include XML validation (Schema and Schematron), Network Authentication and Authorization Service (NAAS), XML Gateway services, and the Universal Description and Discovery Integration tool.

Readiness for complete end-to-end testing by Exchange Network Partners - At this stage, the XML schema(s) at a minimum are ready for testing by Network Partners and the National Database and EPA Node services are available for testing. In addition, all EPA accounts have been established for testing (e.g. privileges to NAAS and authorization to the database)

Flow Configuration Document completed or updated - Flow Configuration Documents identify and standardize the minimum information needed by trading partners to execute a data exchange. They describe the technical configuration and business processes used to exchange data between trading partners.

System ready to receive or publish - This status indicates that a sufficient amount of end-to-end testing has occurred and all problems have been addressed, the XML schema(s) has been released, supporting documentation has been finalized, all production readiness reviews have been completed, the Program Office has received approval (if applicable) from the National Computing Center for deploying new code to production, and the appropriate parties (e.g. helpdesks) have been notified of release and have the necessary tools to support Exchange Network Partners' inquiries.

Develop Trading Partner Agreement (TPA) - A Trading Partner Agreement (TPA) defines in writing, for specific data exchanges, the participating partners' individual and joint responsibilities in stewardship, security, and other items essential for the effective exchange of information between two or more trading partners on the Exchange Network. A TPA must be developed within six months after the exchange has begun unless a waiver is obtained. The Network Policy Framework including the TPA Procedure can be found at: http://www.exchangenetwork.net/policy/index.htm.

Other Exchange Network activities (optional) - This section provides an opportunity to identify key milestones for unique activities associated with a particular project. Some examples are upcoming National conferences to conduct training, additional Web services to be deployed, a strategic rollout plan and related post-production activities.

II. National and Priority System Data Exchanges

Applicants could propose to implement one or more of the following data exchanges. These exchanges are organized by media: EPA's priority will be on proposals that focus on deploying national and priority system data exchanges. Each of these data exchanges is briefly described below, along with related EPA Program Office information and a concise description of milestones for the development of data flow within the FY 2011-2013 timeframe. Applicants need to align their activities with the milestones described. Priority will also be given to proposals that result in data being geospatially enabled and published.

Air Quality System (AQS)

Description:
AQS is the EPA national database system that contains ambient air quality monitoring data, and related location and measurement metadata, collected by state, tribal, and local governments. It is used for regulatory purposes for determining compliance with the Clean Air Act, and for scientific and health effects research. Presently the AQS flow (version 2.1) involves submission of the data to the EPA CDX Node, and manually initiated loading of this data into the AQS database. There are planned upgrades to the AQS flow (version 3.0) to allow submitted files to be automatically loaded into the AQS database. Note: Version 3.0 of the AQS XML schema is expected to involve only definition of the Exchange Network Header, with no planned changes to the version 2.x payload.

Exchange Network Program Office Activities	
Milestone	**Target Completion Date**
Report out on compliance with data standards	12/31/2010
Test XML schema - (Version 3.0)	09/30/2010
Release XML Schema – (Version 3.0)	03/31/2011
Availability of database or system for testing	02/01/2011
Availability of Node services for testing	02/01/2011
Readiness for complete end-to-end testing by States/ Tribes	02/01/2011
System readiness to receive production data to EPA	04/02/2011
Flow configuration document completed or updated	09/30/2010

Additional Activities to be considered by Grant Applicants:
1. Upgrade of reporting agency's IT infrastructure to allow end-to-end use of XML format for ambient air quality monitoring data. Grant applications should promote the development of reusable tools and services. Applicants may want to form partnerships for these development efforts.
2. Development of software for reporting agency Quality Assurance/Quality Control of ambient air quality monitoring data, that is contained in XML files. Applicants may want to evaluate the software developed by the Massachusetts Department of Environmental Protection that automates quality review of monitoring data prior to its publication on the states website and submission to AQS.
3. Software development of interactive tools for the creation and/or editing of XML documents which enforce correct AQS Site and/or Monitor definitions as well XML document validity (i.e. the resulting XML document conforms to the 3.0 schema and all code fields)

Emission Inventory System (EIS)

Description:

The Emissions Inventory System (EIS) is the new information system for storing all current and historical emissions inventory data. It will be used to receive and store emissions data and generate annual and triennial National Emission Inventory beginning with the 2008 NEI.

The National Emissions Inventory (NEI) is EPA's compilation of estimates of air pollutants discharged on an annual basis and their sources. EPA uses the NEI to track emissions trends over time, develop regional pollutant reduction strategies, set and analyze regulations, perform air toxics risk assessments including inhalation risks and multi-pathway exposure, model air pollutant dispersion and deposition, and measure environmental performance as required by the Government Performance and Results Act.

Exchange Network Program Office Activities	
Milestone	**Target Completion Date**
Test XML schema	Completed
Release XML Schema (Draft)	Completed
Availability of database or system for testing	Completed
Availability of Node services for testing	Completed
Readiness for complete end-to-end testing by States/ Tribes	Completed
System readiness to receive production data to EPA	Completed
Flow configuration document completed or updated	Completed

Additional Activities to be considered by Grant Applicants:

Future reporting is expected to transition to the modernized NEI —the Emissions Inventory System (EIS). For FY 2008, EIS development was primarily focused on Web access to the database. Data submissions are expected to start flowing through the Exchange Network to the EIS in 2010. EIS reporting will make use of a new schema that are expected to shorten the length of time required to meet reporting deadlines and reduce burden on state, local and tribal agencies by consolidating reporting schemas — referred to as the Consolidated Emission Reporting schema (CERS). The CERS facilitates the reporting of data from state-to-EPA for the NEI. The schema may also be used for direct facility to state reporting as additional data elements, identified in the Air Force project, have been included for this purpose.

Grant proposals could include facility to state reporting: and, modernization of current systems to meet the shortened reporting requirements.

Electronic GHG Reporting Tool (eGRET)

Description:

An electronic greenhouse gas data system developed by EPA will support EPA's final Mandatory Reporting Rule (MRR) for the collection of GHG emissions data from all sectors of the economy. Under EPA's Greenhouse Gas Reporting Program, approximately 10,000 facilities will submit reports to EPA on an annual basis. The first data collection will be for calendar year 2010 and the first reporting deadline will be March 31, 2011. Following QA of the data, EPA plans to publish the data (with the exception of CBI data) on a publically accessible GHG web portal as well as other agency data portals including the NEI and Envirofacts. In addition EPA plans to make the data available to interested states and tribes through network publishing. The relevant exchange schema, documentation and data flow (including flow configuration document) are being developed through a State-EPA task force (the State-EPA GHG Integrated Project Team). An applicant interested in obtaining data for facilities under their jurisdiction should seek funding to perform the work necessary to receive these data. GHG Reporting Program results will inform future policy by providing a comprehensive, facility-level listing of upstream and downstream GHG emissions. Additional information can be found at: http://www.epa.gov/climatechange/emissions/ghgrulemaking.html

Exchange Network Program Office Activities	
Milestone	**Target Completion Date**
Report out on compliance with data standards	February 2010
Test Draft XML Reporting schema - (Version X)	June 2010
Release Draft XML Reporting Schema – (Version X)	June 2010
Availability of database or system for testing	Fall 2010
Availability of Node services for testing	Winter 2010
Readiness for complete end-to-end testing by States/Regions	Winter 2010
System readiness to share production data with States/Regions	April 2011
Flow configuration document completed or updated	Fall 2010
Quality assurance of preliminary GHG Reporting Program results	June 2011
Public release of GHG Reporting Program results	June 2011

Additional Activities to be considered by Grant Applicants

Exchange Network grant activities include Node development and testing as well as quality assurance of GHG Reporting Program results. States and Regions will be invited to participate in testing the GHG Reporting Program data flow in late-2010 using an exchange schema developed with State input via the State-EPA Integrated Project Team. EPA intends to share GHG Reporting Program production results with States and Regions via the Exchange Network approximately 60 days after the March 31, 2011 reporting deadline.

EPA will provide *preliminary* datasets to those States and Regions that are interested in participating in the quality assurance process. Many States already have GHG reporting programs in place that overlap with MRR sources. A comparison of results could, for example, help identify sources that should have reported to the MRR but failed to do so, a concern particularly in the first year.

ICIS-NPDES
Integrated Compliance Information System –
National Pollutant Discharge Elimination System

Description:
ICIS-NPDES, the modernized version of the Permit Compliance System (PCS), supports traditional NPDES wastewater discharge program functions (e.g., permitting, compliance monitoring, and enforcement), as well as new functions for special regulatory programs, such as concentrated animal feeding operations (CAFO) and wet weather concerns. ICIS-NPDES currently accepts XML-formatted discharge monitoring reports (DMR's) via the Exchange Network and will be able to receive additional NPDES data families electronically in the future. The ICIS-NPDES exchange will be completed with the full "batch" implementation of the system, and PCS is scheduled to be retired soon after development of the ICIS-NPDES full batch capability is complete. The "batch" implementation is for states and facilities to electronically transfer (batch) some or all of their data into ICIS-NPDES using CDX.

The ICIS-NPDES batch implementation is being accomplished in 3 parts:

- **Part 1**: Batch DMR for Hybrid States. As of May 2008, *Hybrid States* can electronically transfer (batch) their DMR data from their state system to ICIS–NPDES and directly enter all of their non-DMR NPDES data into ICIS–NPDES via the ICIS web screens. Hybrid states use ICIS-NPDES to directly manage their NPDES program.

- **Part 2**: NetDMR. As of June 2009, ICIS-NPDES is capable of receiving DMR's (via CDX) from facilities that have electronically signed and submitted them using NetDMR. The NetDMR tool was developed pursuant to an Exchange Network grant managed by Texas with the participation of 11 other states, OEI and OECA. The DMR XML schema components developed in Part 1: Batch DMR for Hybrid States are also used in the NetDMR flow.

- **Part 3:** Full Batch States. Full Batch states have their own systems to manage the NPDES program and will electronically transfer (batch) all of their NPDES data from their state systems via CDX to ICIS-NPDES. This will include the previously-developed DMR data flow as well as all other NPDES data families. There are currently 22 full batch states. The full batch work is being accomplished in three phases, organized by data family (permit and facility data, inspection data, and all remaining data families to include enforcement actions and violations).

Exchange Network Program Office Activities	
Milestone	**Target Completion Date**
Part 1: System readiness to receive production data for Batch DMR for Hybrid states.	Ready
Part 2: NetDMR Flow activities.	
Readiness for complete end-to-end testing by facilities for the NetDMR Flow to EPA.	Ready
XML schema for NetDMR is final	Completed
NetDMR State-hosted Texas instance pilot facility demonstration completed, and application approved for	Completed

Exchange Network Program Office Activities	
Milestone	**Target Completion**
production.	
NetDMR National instance operational for facilities where EPA or selected States are permitting authority. Readiness to receive production facility data for the NetDMR Flow from permitted facilities.*	Completed
Part 3: Full Batch States activities *	
Test ICIS-NPDES **Permit and Facility Data Families** XML schema for **Phase 1** of Full Batch	November 2010
Final Conformance Review of ICIS-NPDES Full Batch Phase 1 (Permit and Facility Data Families) XML schemas	December 2010
Release XML Schema (Final) for Phase 1 of ICIS-NPDES Full Batch (Permit and Facility Data Families)	February 2011
Flow Configuration Document for Phase 1 of ICIS-NPDES Full Batch (Permit and Facility Data Families)	December 2010
Availability of database or system for testing for Phase 1 of ICIS-NPDES Full Batch (Permit and Facility Data Families)	November 2010
Availability of Node services for testing for Phase 1 of ICIS-NPDES Full Batch (Permit and Facility Data Families)	Completed
Test ICIS-NPDES **Inspection Data Families** XML schema for **Phase 2** of Full Batch	January 2012*
Final Conformance Review of ICIS-NPDES Full Batch Phase 2 (Inspection Data Families) XML schemas	November 2012*
Release XML Schema (Draft) for Phase 2 of ICIS-NPDES Full Batch (Inspection Data Families)	January 2012*
Availability of database or system for testing for Phase 2 of ICIS-NPDES Full Batch (Inspection Data Families)	January 2012*
Readiness for complete end-to-end testing by Pilot States/ Tribes for Phase 2 of ICIS-NPDES Full Batch (Inspection Data Families)	January 2012*
System readiness to receive production data for Phase 2 of ICIS-NPDES Full Batch (Inspection Data Families) for Pilot States	January 2012*
System readiness to receive production data for **Phase 3** of ICIS-NPDES Full Batch (**Remaining Data Families**) for Pilot States	Q2FY2013

* The details of the ICIS-NPDES Full Batch Phase 2 scheduled will be available later this FY.

Activities to be Considered by Grant Applicants

ICIS-NPDES grant applicants should consider the following activities among their opportunities for obtaining grant funding:

- Continue ICIS-NPDES data migration activities in coordination with EPA Headquarters, Regions, States, and data migration workgroup participants.
- Participate on Integrated Project Teams (IPTs), monitor progress, and test the processes for submitting NPDES data families to EPA.
- Participate in node testing processes for new submissions to EPA.
- Develop capability to generate final XML schema for ICIS-NPDES data flows.
- Extract and convert the data from State NPDES systems into the XML format needed to submit data to ICIS-NPDES via batch.
- Modify state systems to accommodate the data requirements for ICIS-NPDES.
- Develop requirements and design for extraction tool(s) to pull data out of ICIS-NPDES via the Exchange Network, and import the data to the State database.
- Develop and implement extraction tool(s).

Network Electronic Discharge Monitoring Reports (NetDMR)

Description:
Electronic transmission of discharge monitoring reports (DMR's) allows NPDES permitting authorities to get out of the business of printing and mailing hard copy paper DMR forms to thousands of facilities, sorting the paper forms received, keypunching results by hand, and filing the paper forms. The National Installation of NetDMR has been developed collaboratively among a group of states (led by Texas), OECA and OEI to be a common, centrally-hosted electronic DMR application closely integrated with EPA's ICIS-NPDES system. The Central Data Exchange (CDX) is used for the exchange of data between NetDMR and ICIS-NPDES.

Version 1.0 of the National Installation of NetDMR was released for use by permittees of select pilot states and EPA regions in June 2009. Many states and EPA Regions will use their own customized instance within the National Installation of NetDMR, but NetDMR's open source configuration also allows states to take a copy of the NetDMR code and host it on their servers as their own application. States that elect to use NetDMR in either form must also be users of ICIS-NPDES, as NetDMR is closely integrated with EPA's ICIS-NPDES system. NetDMR provides no connection to EPA's Permit Compliance System (PCS), and PCS is scheduled to be retired soon after development of the ICIS-NPDES full batch capability is complete.

Exchange Network Program Office Activities	
Milestone	**Target Completion Date**
Readiness for complete end-to-end testing by facilities for the NetDMR Flow to EPA.	Complete
XML schema for NetDMR is final.	Complete
NetDMR centrally-hosted instance pilot facility demonstration completed and application approved for production.	Complete
NetDMR centrally-hosted instance ready for testing with authorized states slated for Group I, II, or III production.	Complete
NetDMR operational for facilities where EPA is permitting authority. Readiness to receive production facility data for the NetDMR Flow from EPA-permitted facilities.	Complete
NetDMR centrally-hosted instance ready for Group I authorized states to move into production.	Complete
NetDMR centrally-hosted instance ready for Group II authorized states to move into production.	Complete
NetDMR centrally-hosted instance ready for Group III authorized states to move into production.	6/30/11 *

* Note: production implementation dates can be staggered in time, per state and EPA consultation

Activities to be Considered by the Grant Applicants
The 2011 Exchange Network grant process could support collaborative efforts for states, in consultation with their EPA Regions, to pilot test and launch their instances within the National Installation of the NetDMR tool (Area 1), as well as efforts by states to flow DMR data from

permittees to ICIS-NPDES via their own customized state-hosted NetDMR system (Area 2). Proposals may also support State exploration of enhancements to the National Installation of NetDMR (Area 3).

Area 1 – Pilot Testing and Launch of State Instance within NetDMR National Installation, and Associated Business Processes

Effective implementation includes development of all the business processes to move from a paper-based system to an electronic system, with the understanding that a paper-based system will need to be maintained for several years until all permittees are converted to the electronic system. Applicants could describe the efforts needed by the state to effectively test and launch the use of their instance within the National Installation of NetDMR, and discuss their adoption rate goals and milestones. Applications could also assist states in converting from paper to electronic processes, ensuring that Subscriber Agreements are properly handled according to CROMERR requirements, and ensuring that permit limits are up to date in ICIS-NPDES. Applicants could identify specific production implementation dates (target dates in table above) that the state preferred for their implementation of the NetDMR tool.

Area 2 – Adaptation of NetDMR to a State Environment

Some states have specific business reasons why NetDMR will be used as a stand-alone state program (as opposed to use of the centrally-hosted version). For states that are not prior NetDMR users, this area will provide support for technical activities that lead to implementation. In these cases, applicants might explain why it is advantageous to deploy a stand-alone system (which requires state operation and maintenance). Applicants could discuss costs and milestones associated with deploying and testing the application to ensure it works properly and sends required data to ICIS-NPDES using the approved schema and methodology.

Area 3 –State-requested Enhancements of NetDMR -- National Installation

Many states are now using NetDMR for the first time. Having experience with the interface, there may be innovations or changes that would improve the product. This focus area is for a state or a group of states that would like to enhance reporting by making improvements, changes, or additions to the NetDMR National Installation. The applicant should discuss the nature of the enhancement, the benefits of the change, and the anticipated costs. Because EPA hosts and runs the NetDMR software for states, applicants can discuss the need for a cooperative agreement and/or in-kind services to ensure that changes made to the system are fully compatible with the existing infrastructure that houses NetDMR (including CDX and ICIS-NPDES).

NOTE: A state's participation in Area 1, 2, and 3 is contingent upon its completion of data clean up and migration from PCS to ICIS-NPDES. Under Areas 1, 2 and 3 the grantee could indicate whether the state plans to require mandatory use of electronic submission of DMR's for permits that are renewed after the NetDMR project is completed.

Resource Conservation and Recovery Act Information (RCRAInfo)

Description:
RCRAInfo is a national, Web-based system which provides data entry, data management, and data reporting functions used to support the implementation and oversight of the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984 as administered by EPA (through its Regions) and authorized States. RCRAInfo identifies and categorizes hazardous waste handlers, and includes high quality information about regulated activities, permit/closure status, compliance with Federal and State regulations, and cleanup activities. Only those that are a delegated authority under RCRA Subtitle C can submit data to RCRAInfo, however, non-delegated states or tribes can receive data from RCRAInfo via RCRAInfo outbound services.

Now that RCRAInfo Version 5 has been released, Version 4 Handler submissions will no longer be accepted. EPA has been working with recipients to transition from Version 4 to Version 5. This transition affected only the Handler module, and the changes are fairly minor. With the release of V5, RCRAInfo now supports XML data submission for the following RCRAInfo modules: Handler, Compliance Monitoring and Enforcement, Corrective Action, Permitting, GIS, and Financial Assurance.

Exchange Network Program Office Activities	
Milestone	**Target Completion Date**
System Readiness for V4 Handler and CME	Completed
System Readiness for V4 Corrective Action, Permitting, GIS, and Financial Assurance Data	Completed
Schemas available for evaluation for Handler for V5	Completed
System Readiness for testing V5	Completed
System Readiness for XML Translation for V5	Completed
Begin Web Services evaluation	In-Progress
Initial Web Services Implementation	October 2010
Web Services Testing / Evaluation	November 2010- March 2011
Final Outbound Web Services	September 2011

Additional Activities to be considered by Grant Applicants

EPA encourages recipients to evaluate and explore the use of outbound web services and to partner with EPA to identify outbound service needs and requirements. Participants are encouraged to develop innovative ways for interacting with RCRAInfo Data. With RCRAInfo now being fully ready for XML submittal, EPA encourages States to prepare to transition from flat-file data submittals to XML data submittals using CDX. EPA will be working with the States in 2011 to develop a strategy and a schedule for converting completely to XML submissions. Additionally, States that are currently performing double-data entry should seek to use either RCRAInfo inbound or outbound services to eliminate that double-data entry.

Assessment TMDL Tracking & ImplementatioN System (ATTAINS)
(Integrated Reporting (303(d)/305(b))

Description:
EPA maintains the Assessment TMDL Tracking & ImplementatioN System (ATTAINS) to document assessment decisions reported by States under the Clean Water Act Sections 303(d) and 305(b) and to track Total Maximum Daily Loads (TMDLs). This information is critical to measure environmental outcomes under the EPA Strategic Plan and the Office of Water National Water Program Guidance. The Office of Water Integrated Reporting (OWIR) data exchange, originally developed under an Exchange Network grant to Minnesota, meets EPA's current Integrated Reporting (303(d) & 305(b)) guidance and meets the reporting specifications in the most recent version of EPA's Assessment Database [http://www.epa.gov/waters/adb/tools.htm]

The OWIR flow consists of the OWIR Attribute Schema (OWIR-ATT) The Integrated Reporting data is taken from state water quality assessment data management systems and sent through the state's Exchange Network node using version 2.0 of the OWIR Attribute flow.

Additionally, states submit their geospatial representations of the water assessment units reported in the OWIR-ATT submissions along with links to the underlying National Hydrography Dataset using version 2.0 of the NHD Event flow (NHD-EVT), formerly a part of the OWIR flow called OWIR-EVT. These links, which are stream addresses, are also referred to as 'NHD events'; while this flow was developed for transferring geospatial events related to Integrated Reporting (IR) and ATTAINS, the NHD_EVT schema may also be used to transfer geospatial events that link other program data to the underlying NHD.

For more information on the OWIR flow and the NHD Event flow, please visit http://www.exchangenetwork.net/exchanges/water/owir.htm

Exchange Network Program Office Activities	
Milestone	**Target Completion Date**
Released XML OWIR-EVT, Event, Geospatial Schema – (Version 1.1)	Completed
Released XML OWIR-ATT, Attribute Schema – (Version 2.0)	Completed
Separate, update and rename the OWIR-EVT data flow as NHD Event (NHD-EVT) with updated schema, NHD Event Version 2.0. Includes separated and updated Flow Configuration Document.	August 2010
Ability to receive production attribute data and populate EPA's ATTAINS IR Regional Review Web site (Version 2.0)	October 2010
Launch Integrated Project Team (IPT) to evaluate system data flow and data elements (outreach)	Fall 2010
Evaluate IPT feedback	Fall 2011
Other Exchange Network activities: Development of Water Quality Conditions and Integrated Reporting Data Standard to begin in 2011	TBD

Additional Activities to be considered by Grant Applicants

- Participate in dialogue about using the Exchange Network as a tool for States to submit Integrated Reporting data via an Integrated Project Team. The primary focus of the Integrated Project Team will be to evaluate, validate and test version 2.0 of the Attribute Schema (OWIR-ATT) and make subsequent recommendations for future iterations of the schema that may be developed upon completion of a data standard. The IPT will also assist in determining Best Practices for incorporating or streamlining EPA's Regional role in the Integrated Reporting process.
- EPA will begin working on the Water Quality Conditions and Integrated Reporting Data Standard in 2011. During this effort, EPA will solicit feedback from the states on the data standard and the updated schema that will be developed upon completion of the data standard.
- Identify innovative tools that may enhance the interaction between EPA Regions and States during the 303(d)/IR review and approval process.
- Identify innovative ways to share geospatial information related to Integrated Reporting data and utilize Web-based services and applications.

eBeaches

Description:

eBeaches is the electronic data transmission system that allows EPA to securely receive and display state beach water quality and swimming advisory data as soon as state and local agencies send the data. eBeaches supports the Beaches Environmental Assessment and Coastal Health (BEACH) Act requirement to collect, store, and display beach public right-to-know pollution occurrence data.

Exchange Network Program Office Activities – PRAWN	
Milestones	**Target Completion Date**
Test notification XML schema - (Version 2.1)	Completed
Release notification XML Schema – (Version 2.1)	Completed
Availability of database or system for testing	Available
Availability of Node services for testing	Available
Readiness for complete end-to-end testing by states/tribes	Ready
System readiness to receive production data to EPA	Ready
Flow Configuration Document completed or updated	Completed

Exchange Network Program Office Activities – Beach WQX	
Milestones	**Target Completion Date**
Test Beach Access DB use of WQX XML schema (V2.0)	Completed
Release Beach Access DB use of WQX XML Schema (V2.0)	Completed
Availability of database or system for testing	Available
Availability of Node services for testing	Available
Readiness for complete end-to-end testing by states/tribes	Ready
System readiness to receive production data to EPA	Ready
Flow Configuration Document completed or updated	Completed

Activities and Suggestions to be considered by Grant Applicants

Applicants should consider the following steps prior to data submissions.

- Read all support documentation at
  http://www.epa.gov/waterscience/beaches/grants/datausers/index.htm
- Map systems to the approved national XML schemas.
- Quality check organization name (org_id) to sample station (station_id) to beach name (project _id aka beach_id and national project id (EPABEACH) relationship/links to ensure correct stations are linked to corresponding beach.
- Check with other internal state offices for existing Node capability and before developing Node capability for each beach data flow.
- Validate XML instance documents prior to submission via CDX or Node.
- Participate in biweekly Beach conference calls.

Safe Drinking Water Information System (SDWIS)

Description:
The Safe Drinking Water Information System (SDWIS) receives and stores basic inventory and regulatory compliance data for all public drinking water systems in the country. Data flows use XML from state primacy agencies to EPA.

Exchange Network Program Office Activities	
Milestone	**Target Completion Date**
Report out on compliance with data standards	FY 2011
Laboratory to State reporting using XML schema	Completed
Flow Configuration Document updated and/or completed	FY 2011 3rd Qtr.
XML Schema updated and/or completed	FY 2011 3rd Qtr.
Availability of database for system for testing	FY 2011 4th Qtr.
Availability of node services for testing	FY 2011 4th Qtr.
Readiness for complete end-to-end testing by States/ Tribes	FY 2011 4th Qtr.
Readiness for submission of production data to EPA	FY 2011 4th Qtr.
Ready to Receive and/or Publish public water system compliance monitoring data	FY 2012 1st Qtr.

Additional Activities to be considered by Grant Applicants:
The EPA Administrator's Drinking Water Strategy includes state sharing of compliance monitoring data from public water systems with EPA to improve at the national level the understanding of trends in drinking water quality, program oversight and success.

- EPA encourages states to deploy the SDWA laboratory reporting tool (Lab to State) to allow laboratories to report sample results electronically to state primacy agencies
- States should work with the Drinking Water program to develop/define information requirements, develop and test XML Schema
- States/tribes should collaborate with other states/tribes in the development of sharable code and mapping tools
- States should consider collaborating with other states in the development of sharable code and mapping tools
- Non-SDWIS states should consider activities that include development of sharable code and data mapping tools.
- Identify and develop processes and tools that enable the conversion of paper compliance monitoring data into an electronic format
- Develop sharable data translation and validation tools to facilitate the transmission of compliance monitoring data
- Develop and/or contribute to data quality/assurance procedures and tools to improve the completeness, accuracy and integrity of drinking water data
- Encourage the development and sharing of the Exchange Network capabilities for this data flow by supporting database/node installation, training and mentoring opportunities

Underground Injection Control (UIC) Information System

Description:
EPA launched a new UIC national information system in December 2007 and immediately began accepting data through EPA's Exchange Network. The UIC data system is designed to provide high quality, consistent and complete program information to support EPA's objective to manage and oversee the national and regional program. The data fields are at well level, with fields for UIC inventory (linked to FRS), permits, geospatial coordinates, inspections, compliance with mechanical integrity, violations and enforcement actions.

As of the start of 2010, twenty of the 69 State and Region UIC programs were submitting data quarterly to the UIC DB, with 5 other programs expected to start submitting data by mid-2010. An additional 17 UIC programs are currently mapping their data to the EPA XML schema and should start submitting in 2011. EPA is following a strategy and schedule to engage all 69 programs in mapping their data by 2012.

A revised XML document (Version 2.0) was released under the same UIC data model to improve performance. All UIC data submitters after May 14, 2010 mapped their data to the new XML schema.

Each state is expected to transition from existing reporting to a single quarterly submission to the UIC data base once it meets the data quality and completeness requirements outlined in a transition data policy memorandum issued in March, 2009.

Exchange Network Program Office Activities	
Milestone	**Target Completion Date**
Release final XML Schema – (Version 1.0)	Completed
Flow configuration document completed	Completed
System ready to receive production data from states	Completed
Release revised XML Schema - -(Version 2.0)	Completed
Revised flow configuration document , other documentation completed	Completed
Other: Successful mapping, conversion of state data consistent with EPA mapping instructions, and node to node submission of source data to EPA's UIC database (for all 68 UIC programs)	On-going
Other: Validation of data received in EPA's database after each quarterly submission to address data quality/completeness issues, to continue until transition requirements are met.	On-going

Additional Activities to be considered by Grant Applicants:
- For Class V state programs with no effective existing database, EPA will support activities to build local data system that leads to efficient data transfer to EPA's database. EPA has existing data templates and data transfer tools available, and will provide technical support on request.
- EPA requests that UIC applicants to include participation in existing EPA Integrated Project Teams (IPT) in their project narrative.

- Since the UIC DB objective is to phase out of other reporting, EPA requests UIC applicants to address how QA/QC issues raised during the quarterly data submission cycle will be addressed until transition is complete.

Water Quality Exchange (WQX)

Description:
WQX defines the framework by which EPA compiles water quality monitoring data (physical, chemical, biological and habitat) into the STORET Data Warehouse (http://www.epa.gov/storet/dw_home.html). Data are collected by multi-jurisdictional entities via a shared schema. The purpose of the compilation of data in the STORET Data Warehouse is to provide a seamless collection of monitoring data that is not restricted by jurisdictional boundaries. For more information about WQX, please visit http://www.epa.gov/storet/wqx.html or http://www.exchangenetwork.net/exchanges/water/wqx.htm.

Exchange Network Program Office Activities	
Milestone	**Target Completion Date**
System readiness to receive test and production data to EPA (WQX v1.0 and WQX v2.0)	Completed
WQX Web Tool in production (WQX Web is an XML generation tool that supports all WQX schema data elements)	Completed
De-support for distributed STORET database (WQX data flow will be primary mechanism for submitting data, and STORET database submissions are no longer accepted).	Completed (September 2009)
STORET Warehouse Catalog, Monitoring Location, and Results Web Services available	Completed
Additional STORET Warehouse Web Services release with full USGS NWIS Web Services alignment	Spring/Summer 2010
STORET Warehouse web mapping services available	Summer 2010
WQX v2.1** schema released and in production	June 2010

** The WQX v2.1 schema includes minor changes to various data element field length sizes. All field length changes include increases in element size, so WQX v2.1 is backwards compatible with all WQX v2.0 submissions.

Additional Activities to be considered by Grant Applicants
- Utilize WQX v2.0 to flow water quality data, specifically biological and habitat monitoring parameters
- Develop applications that use EPA STORET Warehouse web services (data and spatial) for data integration and analysis
- Adopt all applicable data standards for data submission and sharing
- Identify innovative ways for sharing continuous monitoring data
- Encourage the development of common catalogue services that provide standard water quality data discovery and publishing to the Exchange Network community
- Build tools that integrate water quality data from various sources (e.g. USGS data) to present a common view of water quality data
- Encourage capacity with small data providers for participating with other data partners and submitting data through WQX and WQX Web
- Develop shareable translation and validation tools to facilitate water quality and biological data exchange.

- Begin linking station locations consistent with the NHD and the Geospatial One Stop Hydrography Standard.
- Identify collaborative and innovative approaches for transitioning from local STORET to WQX.

Facility Registry System (FRS)

Description:
The Facility Registry System (FRS) is a centrally managed database that provides access to a single source of comprehensive information on facilities subject to environmental regulations or of particular environmental interest. This integrated facility record allows the EPA, web application owners and the public to gain access to all environmental information reported from and about specific facilities. The Facility Id 3.0 schema is available now to allow easier publishing and access to facility identification information.

Exchange Network Program Office Activities	
Milestone	Target Completion Date
Test XML schema – NEW FAC ID Version 3.0 replacing Fac ID 2.3	Completed
Release XML Schema – NEW FAC ID Version 3.0	Completed
Availability of database or system for testing	Available
Availability of Node services for testing	Available
Readiness for complete end-to-end testing by states/tribes	Ready
System readiness to receive production data to EPA	Ready
Flow configuration document completed or updated	Completed
Availability of GHG Facility Records	6/30/2011
Availability of State/Tribal Master Records by Web Services	10/01/2010.
Availability to receive Polygon Locational data	10/01/2010

Additional Activities to be considered by Grant Applicants
States are encouraged to exchange facility data with EPA's FRS that are: ARRA (American Recovery and Re-Investment Act) facilities, Tier 2 Chemical Inventory Reporting facilities, CAFO's (Concentrated Animal Feed Operations), Underground Storage Tanks, Leaking Underground Storage Tanks, Landfills, Spill Prevention Control and Counter Measure facilities and other facility types of environmental interest. EPA will be able to publish to Exchange Network partners the universe of Greenhouse Gas Reporters by June 2011.

IPT involvement is encouraged to assist in building out Web Services to help publish facility identification data throughout the Exchange Network. Defining, vetting and building a comprehensive standard set of Web Services for facility data would advance the Network and serve as a model for other data service publishing.

States and tribes are encouraged to submit geo-spatial locational data (latitude and longitude data and where possible linear and polygonal locational values, along with collection metadata) to EPA's FRS for partners interested in locating and mapping facility data. Locational data is especially encouraged for those sites that receive ARRA funds. Applicants are encouraged to improve their facility records to conform more closely to the contact, facility and locational data standards, thus improving the values of facility records. Tribes are especially encouraged to use the Fac ID schema to share data about Open Dumps on Indian Country. (See Open Dump Section on page A-31 of this Appendix)

Toxic Release Inventory System (TRIS)

Description:
The TRI System is an annual reporting requirement for industries with toxic chemical releases (deadline is July 1st of every year). The TRI State Data Exchange provides for simultaneous submission of TRI reports to both EPA and states via CDX. Benefits of the TRI State Data Exchange include:
- For participating states and EPA, elimination of duplicative data entry, reduction of state data reconciliation, and faster access to the data
- For facilities, reduced burden through simultaneous submission to both EPA and the state to meet EPCRA Section 313 reporting requirements

Exchange Network Program Office Activities	
Milestones	**Target Completion Date**
Load/Update XML Schema (if necessary) for FY2010	11/30/2010
Implement ad-hoc query services (SDX Viewer) for partners to identify how many times reports have been sent to them via CDX and if the transmissions succeeded or failed to reach the state node. The SDX Viewer application is hosted on CDX.	Completed 12/21/2009
Continue to investigate use of additional Web services for further application functionality	Ongoing
Test and Support operational Node-to-Node data exchanges between CDX and States	Ongoing

Additional Activities to be considered by Grant Applicants:
- Work with the TRI Program to test XML schema on the state node to accept TRI data from EPA.
- States should develop procedures that enable the import of TRI data into their systems. The procedures should support data in XML format received via their state node.
- Encourage environmental state program office employees at SDX states to take advantage of the benefits offered by the SDX Viewer tool. More information can be found at http://www.epa.gov/tri/stakeholders/state/state_exchange/index.htm
- Use the TRI XML schema to develop loading/converter tools to populate the state database directly from incoming data sources via CDX.
- Leverage existing proposals and tools developed by states already on the TRI State Data Exchange. http://www.epa.gov/tri/stakeholders/state/state_exchange/index.htm
- Collaborate with states on the TRI State Data Exchange and other states interested in joining by developing sharable code (i.e., monthly conference calls)

III. Other Data Exchanges

This section of Appendix A highlights other data exchanges that meet specific business needs. These data exchanges could support environmental decision-making and operations, address cross-cutting environmental issues, or support specific state, territorial, or tribal environmental programs.

Applicants could propose to implement geospatial data and tools to flow environmental information. Exchange Network partners could play an important role in helping the geospatial community at large realize the benefits of building interoperable solutions to share and re-use data. By adhering to applicable geospatial standards and measurement guidelines for metadata creation and publishing, and by implementing Open Geospatial Consortium (OGC) compliant Web service capabilities, Network partners can take important steps to ensure the development and maintenance of shareable geospatial data resources. To avoid duplicative data acquisitions, applicants can utilize the existing cataloged information available in the Geospatial One Stop (GOS) portal (http://www.geodata.gov) prior to buying, creating or collecting geospatial data needed for proposed projects. Once projects are underway, partners can create metadata about geospatial datasets acquired and publish their existence through registration at the GOS portal.

Other Data Exchanges

Coal Mining Data Exchange

Description:
Coal mining operations are regulated under the Clean Water Act (CWA), including discharges of pollutants to streams from valley fills (CWA Section 402) and the valley fill itself where the rock and dirt is placed in streams and wetlands (CWA Section 404). Coal mining operations are also regulated under the Surface Mining Control and Reclamation Act of 1977 (SMCRA). EPA and the US Army Corps of Engineers jointly implement the CWA Section 404 program with the Corps issuing the permits day to day and EPA developing the environmental review criteria and coordinating on permit review. EPA and the state assumed programs issue CWA Section 402 permits, which in some cases some of the associated information is contained in existing flows. The Office of Surface Mining and Reclamation (OSM) and the state assumed programs issue permits under SMCRA. All these regulatory programs have overlapping information requirements and independent regulatory authorities for project review. OSM, EPA, Corps and the Fish and Wildlife Service are working together with state SMCRA regulatory programs to develop a geospatial information sharing pilot and a common geospatial viewer for that information.

Proposals under this category should provide innovative projects to prepare for, expand, improve the integration of, or improve the availability of relevant information pertaining to or informing the regulatory review of coal mining projects at the state and / or federal level. Proposals are also welcome from states participating in the pilot project to advance their current efforts, and also from states interested in data expanding their data sharing capabilities independently or through a future expansion of the pilot project.

The pilot project team representatives from OSM, FWS, EPA, and the COE will work closely with State Regulatory Authorities members regulating SMCRA, the Clean Water Act (CWA) and other applicable statutes to:

- Create a Appalachian Geographic Information System (AGIS) model for discovering, collecting, harmonizing, managing, and serving geospatial coal mining data for coal mining activities located in the states of Virginia, West Virginia, Kentucky, and Tennessee,
- Share coal mining geospatial data along the Federal interagency MOU participants (OSM, EPA, COE, and FWS) and the State Regulatory Authorities,
- Develop and document a streamlined work flow process so that these data and services can be effectively incorporated into SMCRA, CWA, and other applicable regulatory program activities and coordination.

The primary project goals are to:
1. Share coal mining data for the pilot project states transparently in a common mapping format such as through ArcGIS Server, and
2. Harmonize existing coal mining geospatial data themes using approved ASTM and FGDC standards where available,
3. Discover and extend additional geospatial data themes pertinent to the administration of SMCRA and CWA,

4. Establish an Appalachian GIS for coal mining geospatial data for use by the MOU federal and cooperating state agencies to facilitate coordination and informed SMCRA and CWA permitting decisions for the project states,
5. Align with the initiatives and goals of Federal and state geospatial data plans and initiatives.

Additional Activities to be Considered by Grant Applicants

Coal Mining Data Exchange grant applicants should consider the following activities among their opportunities for obtaining grant funding:

- Continue coal mining data migration activities in coordination with EPA, Federal pilot project participants, and States.
- Participate on pilot project teams to monitor progress, and test the processes for exchanging data families.
- Participate in node testing processes for new exchanges.
- Develop capability to generate final XML schema for data flows.
- Extract and convert the data from State systems into the XML format needed to submit data for exchange via batch.
- Modify state systems to accommodate the data requirements for interagency exchange.
- Develop requirements and design for extraction tool(s) to pull data out of coal mining data exchange via the Exchange Network, and import the data to the State database.
- Develop and implement extraction tool(s).

National Pollution Prevention (P2) Results Data System

Description:
The National P2 Results Data System is a cooperative initiative between EPA, state and local P2 programs, the National Pollution Prevention Roundtable (NPPR), and the Pollution Prevention Resource Exchange (P2Rx) Centers, to present the results of P2 programs on a state, regional, and national basis using common metrics and definitions. The initial System, including regional aggregation modules and training and promotional materials, has been developed and deployed. An XML schema for the Pollution Prevention Reporting (P2R) Data Exchange has been developed and three state-level databases are under development to facilitate the collection and aggregation of P2 outcome data.

Exchange Network Program Office Activities	
Milestone	**Target Completion Date**
Update XML schema to reflect changes in the P2 Results data set; submit for review	9/31/2010
Greenhouse Gas Reporting protocols are updated to conform with applicable Exchange Network standards	6/30/2011
Additional Sustainability Metrics are defined	1/31/2012
P2 Results Schema and documentation is updated to include GHG and sustainability metrics	6/30/2012

Additional Activities to be considered by Grant Applicants:
- Grant applicant activities could include mapping additional data elements to XML schema and configuring the Node/Web Services to flow this dataset to the National P2 Results Node, EPA, and other partners.
- Encourage the development of Exchange Network capabilities with additional states for this data flow including database/node installation support, and training and mentoring opportunities.
- Contribute to further development of data collection policies (e.g., required documentation of results; how to handle recurring results).
- Develop the capability within the National P2 Results Data System and the Pollution Prevention Reporting (P2R) Data Exchange to differentiate data by scope (i.e., program-level versus project-level) and by method (e.g., direct measure versus estimation).
- Update the cost factors used in the National P2 Results Data System to convert environmental outcomes to economic benefits.
- Develop additional conversion factors for calculating environmental outcomes from behavior changes.
- Develop and share tools to assist data collection in the field.

Agricultural Non-Point Source Best Management Practice Data Exchange
(NPS BMP)

Description:
Accurate, consistent, and spatially explicit non-point source best management practice data is a critical data flow for assessment of load reduction and corresponding water quality benefits. BMP's are components of Tributary Strategies for analyzing Total Maximum Daily Loads (TMDL's). BMP data aids the strategic targeting of environmental actions required to protect and restore the water quality conditions necessary to sustain a number of aquatic species.

The Chesapeake Bay Program Partnership, led by Pennsylvania Department of Environmental Protection, developed the data exchange templates, schema and services that standardizes the exchange. On a national scale, NPS BMP will provide a database of information on best management practices suitable to reduce loads and improve water quality in different geographic settings.

Exchange Network Program Office Activities	
Milestone	**Target Completion Date**
Report out on compliance with data standards	Completed
Test XML schema	Completed
Release XML Schema	Completed
Availability of database or system for testing	Completed
Availability of Node services for testing	Completed
Readiness for complete end-to-end testing by States/ Tribes	Completed
System readiness to receive production data to EPA	11/20/2010
Flow configuration document completed or updated	Completed

Additional Activities to be considered by Grant Applicants
Applicants are encouraged to do any of the following activities:
- Expand the current Regional exchange by leveraging the existing schema and standards.
- Develop the suite of services to support geographically and temporally based exchanges of BMP data.
- Build out the schema to include geo-spatial data exchange elements and develop additional validation and/or analytical tools to support this data flow.

IV. Enabling Geospatial Data Exchange

Description:
Geospatial data represent features on the Earth expressed as lines, points or polygons and are used with programmatic data through geospatial information systems and browsers to support programmatic analysis in geographic or place-based context.

Office of Management and Budget (OMB) Circular A-16 "Coordination of Geographic Information and Related Spatial Data Activities" identifies 34 critical geospatial data themes that are essential components of the National Spatial Data Infrastructure (NSDI) (http://www.whitehouse.gov/omb/circulars/a016/a016_rev.html). The A-16 geospatial data theme categories contain data sets related to biodiversity, wetlands, watershed boundaries, soils, hydrography, etc., essential to environmental analysis and decision-making.

Place-based approaches are particularly crucial for dealing with environmental issues and business areas, from assessment, to environmental emergency response, to enforcement, restoration, habitat protection and many others, and are recognized as key to business processes in the August 11 2009 White House Memo, "Developing Effective Place Based Policies for the FY 2011 Budget". Additionally, the June 2009 Congressional Research Service report, "Geospatial Information and Geographic Information Systems (GIS): Current Issues and Future Challenges", describes the need for a more robust "NSDI 2.0" approach, with a recommendation of bolstering existing partnerships such as the Exchange Network.

Through integrated data collection approaches, such as via the Exchange Network, geospatially-enabled cross-jurisdictional datasets can provide more consistent business approaches and robust analysis for informed decision-making and dealing with environmental issues – for example, watersheds as they cross political boundaries. The Exchange Network can serve a critical role in the future expansion of the National Spatial Data Infrastructure, with its model of data stewardship at multiple levels of government, and could serve to empower the development of national data layers while maintaining data and metadata stewardship, maintenance and ownership at the appropriate organizations and levels of government. A relevant example is the existing Office of Water - National Hydrography Dataset (NHD) Update flow. Much of EPA's data is gathered at the state level, and historically had to be manually integrated; Exchange Network facilitates this in a more automated fashion. As the Exchange Network continues to evolve, accommodating more types of data and payloads, the opportunity exists for sharing geospatial data, toward place-based solutions. EPA seeks novel proposals that provide prototype solutions for the next generation NSDI, a merger of the existing National Spatial Data Infrastructure data, tools and catalogs along with the distributed computing resources of the Exchange Network.

Exchange Network Program Office Activities	
Milestones	**Target Completion Date**
Evaluate existing standards and schema (XML/GML) to support coverages	Completed
Develop XML/GML schema and concept of operations for discovery, update or exchange of coverages	Completed
Release XML Schema	Completed
Conduct/complete testing	Completed
Complete readiness evaluation for implementation	Completed
Readiness for complete end-to-end testing by states/tribes	08/01/2010
System readiness to implement geospatial data production exchange	12/01/2010

Additional Activities to be considered by Grant Applicants:

The intent is not to fund the creation of new data (e.g. conducting water sampling) or exchange entire national coverage, but, where practical, to expand the integration of robust geospatial data elements such as points, linear and polygonal data in the sharing of important updates by state or local agencies across the Network partnership, as well as to facilitate the publishing of Network data, services, and metadata using Open Geospatial Consortium (OGC) standards and interfaces.

Proposals relevant to this topic should be centered on one or more key business areas that would benefit from the publishing of geospatially-enabled Network data both inside and outside the Network itself. Innovative proposals will demonstrate publishing of geospatial data assets and metadata for use in proposals involving multiple jurisdictions and/or will focus on multi-media environmental problems, such as using Geospatial Really Simple Syndication (GeoRSS) to integrate bio-diversity, habitat, bio-indicators, and invasive species with existing water data. Examples of relevant proposals could include the exploration of potential effects of climate change on ecological resources like Threatened and Endangered species or vulnerable ecosystems. In these examples, the value of geospatially enabling Network data flows is apparent to facilitate the study of cross-jurisdictional problems with data sources from inside and outside the Exchange Network itself, using geographic location as an integrating concept.

Applicants are encouraged to demonstrate how their work fosters collaboration across a broader community of interest (e.g., USGS, and other Federal agencies, State Environmental, Resources Conservation and Cartographic Agencies, etc.) and supports the establishment and broad distribution of these data and metadata. Applicants proposing the development of geospatial exchanges should leverage OGC standards, tools and services to adapt XML/GML schema to support the discovery, exchange and update of these critical data sources.

V. Innovative Data Exchanges

This section of Appendix A highlights examples of Network-wide innovation projects that would expand the Exchange Network's capability to meet emerging business needs and promote reusability. Innovation will be the primary growth mechanism that contributes to the Exchange Network success over the long term. This section describes programs and activities where partners can design, develop and manage flows that will leverage the value of the Exchange Network and expand its use.

Projects and proposals should identify specific activities that meet a business need and involve the sharing of data among partners that are currently on or expected to be part of the Exchange Network. Innovative projects or proposals may or may not involve data flowing to EPA. Acceptable activities for proposed innovative projects include the following:
- publication of data which EPA, states or tribes might want to access from a partner's Node;
- design and development of a key data flow not yet mature enough to be operational on the Exchange Network;
- development of the data standards for a specific data or document flow; and
- development and documentation of an XML schema.

This section of the Appendix provides detailed information on the following examples of data flows that would be considered innovative in the use of the Exchange Network infrastructure:

Innovative Data Exchanges

An example of another potential innovative project could be to partner with EPA and/or states/tribes to develop data standards and data schemas that would support data flows related to underground storage tank (UST) facilities including, but not limited to, data related to: inventories, releases (leaking), inspections and compliance. UST data flows or data publishing could support web proposals and/or integration efforts that would benefit from underground tank facility and program information. Other innovative projects include, but are not limited to, projects related to emergency response (e.g., Homeland Emergency Response Exchange or HERE) and water quality laboratory data reporting.

Enhanced Integration for Electronic Documents and Data (eDoc)

Description:
EPA is seeking proposals to improve transparency of information about regulated facilities through better integration of EPA and state information sources. Often, EPA's databases provide basic activity and status information, while state, local, or tribal websites or databases contain more detailed information and documents. Data consumers often do not find the information they need because it is not connected. They find it hard to work across EPA and state information sources, and would prefer integration.

A successful project would develop interconnectivity between state/local/tribal databases or websites and EPA public access sites such as ECHO, My Environment, and EnviroFacts. State/local authorities and Tribes can develop electronic document access and exchange processes within four focus areas: (1) Web Services that allow EPA websites to send Facility Registry System (FRS) or other permit identifiers to the state system for retrieval of data about a particular facility; (2) similar Web Services that share, receive, store, or retrieve documents that are related to regulated facilities; (3) development of XML schemas/metadata standards that can be used by EPA and states to transfer information about documents; and (4) incorporation/integration of existing Web Services offered by EPA into state, local, tribal websites.

Grant Focus Areas (with bulleted examples)

Area 1 – Integrated Web Services for Data Retrieval
- State database/website provides detailed information about combined sewer overflows, spills, or other CWA discharge data. The state adapts its database/website to receive a request providing relevant data for a specific NPDES permittee or geographic area.
- State measures pollutant reductions from enforcement actions - provides a web service.

Area 2 – Integrated Web Services for Document Retrieval
- A state has searchable documents (e.g., CAA excess emissions or certification reports, enforcement administrative orders or consent decrees, permits or permit fact sheets, notices of violation, or enforcement case press releases). The state updates its web processes to either allow EPA websites to send an identification number to allow users to find documents for a chosen facility, or the state provides EPA with regularly updated metadata that contains pointers to, and descriptive information about, documents that the state can provide to users.

Area 3 – XML Schema and Metadata Standards for Selected Documents
- Using the example under Area 2, a consortium of states develop metadata standards for chosen documents – providing a structure for listing documents that are available for public users. The metadata standards may describe the document type, date, year, submitter, owner, facility identifier, etc. The standard will allow states to publish metadata and URLs for the documents, or serve up the documents directly.

Area 4 –State Integration of EPA Web Services.
- Many EPA websites currently provide web services or direct URL access to queries. State, local, tribal websites could be adapted to link into the relevant data EPA publishes about a facility or interest area (e.g., watershed, community, etc).

Proposals must explain how the FRS or permit number will be incorporated into the project, and should discuss the data flow and document types that will become more readily accessible. Proposals may request EPA in-kind services if existing CDX and document management infrastructure changes are needed to accommodate state projects. Project areas that focus on shared services for existing minimum data requirements are not eligible, because this information is handled via established, database-specific procedures.

Types of Network development activities that proposals could address include:
- Develop and test XML schema and documents' metadata standards,
- Develop and test web services,
- Availability of Node services for testing,
- Readiness for complete end-to-end testing by project participants, and
- Flow configuration documents completed or updated.

Open Dump Data Exchange

Description:
The Open Dump problem facing tribes is immense and badly in need of inventorying the universe of the problem. The EPA's Office of Resource Conservation and Recovery (ORCR) and the DOI-Indian Health Service (IHS) all need updated and timely information on Open Dumps on Indian Country. The Exchange Network is in a unique position to assist and promote the timely, accurate sharing of key information on Open Dumps to a vast set of partners. This is a data set that has even OMB's attention. Development of specific data standards might be needed. Development or enhancement of the Fac ID 3.0 schema might fit the data exchange needs of this data flow. However, a new schema might be necessary for the data flow. Tribes are encouraged to develop the data requirements that will meet ORCR and IHS data needs and develop the appropriate schema and flow configuration to meet these data needs.

Milestones:
- Develop XML schema – Open Dumps
- Test Schema
- Develop Web services
- Complete end to end testing by tribes with CDX
- Flow configuration document completed
- Conduct an IPT on the data flow
- Mentor other tribes on the data flow

Additional Activities to be considered by Grant Applicants:
Integrated Project Team involvement is encouraged to assist in building out the schema for Open Dumps. Defining, vetting and building a comprehensive standard set of Web Services for Open Dump data flow would advance the Network and serve as a model for other data service publishing. Documenting the data flow is needed.

Appendix B

Definitions

Central Data Exchange (CDX)
EPA's CDX is the point of entry to the National Environmental Information Exchange Network (Exchange Network) for environmental data exchanges to the Agency. CDX provides the capability for submitters to access their data through the use of web services. CDX enables EPA and participating Program Offices to work with stakeholders - including state, tribal and local governments and regulated industries - to enable streamlined, electronic submission of data via the Internet.

Communities of Interest
A community of interest is a group of Exchange Network stakeholders who share an interest in the exchange of a specific set of environmental data.

Construction
Construction is the erection, building, alteration, remodeling, improvement, or extension of buildings, structures or other property. Construction also includes remedial actions in response to a release, or a threat of a release, of a hazardous substance into the environment as determined by the CERCLA of 1980.

Data Access Services
Network publishing is a term that refers to using Web Services to make data available to Network users by querying nodes and returning environmental data in the form of XML documents. These services are also called data services. Once these data services are deployed, they can be used in a number of ways such as populating Web pages, synchronizing data between sites, viewing data in a Web service client, or building new sources of data into an integrated application. In other words, data access services is a specific subset of the many possible types of Web Services. Other Web service types include data submission, security, quality assurance, notification and status.

Data Element
A data element is the smallest unit of information stored in and exchanged among Exchange Network partners' information systems. Examples of data elements are the facility name, DUNS number, and inspection date.

Data Exchange Template (DET)
A data exchange template is a standardized format that identifies the types of information required/allowed in a particular document or data exchange. Data exchange templates contain no data, but they define the format for exchange according to data standards and trading partner agreements. A standard template for DET's is available on the Exchange Network Website (http://www.exchangenetwork.net/dev_schema).

Data Standard

A data standard documents an agreement on representation, format and definition of common data exchanged. Exchange Network partners must use data standards that have been approved by the Exchange Network Leadership Council (ENLC). The ENLC has subsumed the activities of the Environmental Data Standards Council (EDSC). See information at http://www.exchangenetwork.net/standards.

Demonstrated Node Configurations (DNCs)

Demonstrated Node Configurations are the messaging layer for Web Services that interacts with the Exchange Network. It is based on the Network WSDL which defines the Web Services.

Environmental Information Exchange Network (Exchange Network)

The Exchange Network is an Internet and standards-based information network among EPA and its partners in states, tribes, and territories. It is designed to help integrate information, provide secure real-time access to environmental information, and support the electronic collection and exchange of high-quality data and information. The Exchange Network provides a more efficient way of exchanging environmental information at all levels of government. It significantly improves the way EPA and its state, tribal, and territorial partners send and receive information.

Extensible Markup Language (XML)

Extensible Markup Language is a flexible language for creating common information formats and sharing both the format and content of data over the Internet and elsewhere. XML is a formatting language recommended by the World Wide Web Consortium (W3C). For guidance on the development of XML schema for the Exchange Network or related activities of the Network Technical Group, see the Exchange Network Web site at http://www.exchangenetwork.net.

Flow Configuration Documents (FCD's)

FCD's are the principle document that captures the detailed data exchange processing design and roles governing the data exchange using narrative text, diagrams and examples. A standard template for FCD's is available on the Exchange Network Website http://www.exchangenetwork.net/dev_schema).

Geographic Information Systems

Geographic Information Systems (GIS) include software and hardware systems that relate and display collected data in terms of geographic or spatial location. GIS allow users to collect, manage, and analyze large volumes of geospatial data and metadata. EPA and its partners use GIS systems to conduct complex environmental analyses.

Geospatial Data

Geospatial data are data that identify, depict, or describe the geographic locations, boundaries, or characteristics of the Earth's inhabitants or its natural or human-constructed features. Geospatial data include geographic coordinates (e.g., latitude and longitude) that identify a specific location

on the Earth and data that are linked to geographic locations or have a geospatial component (e.g., socio-economic data, land use records and analyses, land surveys, homeland security information, and environmental analyses). Geospatial data may be obtained using a variety of approaches and technologies, including things such as surveys, satellite remote sensing, Global Position System (GPS) hand-held devices and airborne imagery and detection devices.

Geospatial Technologies
Geospatial technologies include the computer hardware and software that are commonly used to collect, import, store, manipulate, analyze, and display digital geospatial data. These technologies include GIS, global positioning systems (GPS), remote sensing and visualization systems.

In-Kind Services
Services provided by EPA contractors and consultants on specific parts of the project for the recipient. The recipient can request this type of service as part of the grant proposal, if the in-kind work is directly related to the recipient's proposal and the applicant is the primary beneficiary of the work. However, EPA reserves the right to decide whether or not in-kind services will be provided. The recipient may not direct the work provided through in-kind services. These services are managed by EPA.

Integrated Project Team
A group of individuals comprised of partner and EPA staff, support contractors and technology vendors organized to design and implement a specific exchange.

Metadata
Metadata are data or information that describes other data. Examples include data that describe how or where the data were collected, whether or not the data comply with agreed-upon data standards, or how the data will be used.

National and Priority System Flows
Thirteen National and Priority System Flows identified in this Solicitation Notice The flows are: Air Quality System (AQS); Emissions Inventory System (EIS); Greenhouse Gas Data System (GGDS); Integrated Compliance Information System – National Pollution Discharge Elimination System (ICIS-NPDES); Net Discharge Monitoring Reports (NetDMR); Resource Conservation and Recovery Act Information System (RCRAinfo); Assessment TMDL Tracking and Implementation System (ATTAINS); eBeaches; Safe Drinking Water Information System (SDWIS); Underground Injection Control Database (UIC); Water Quality Exchange (WQX); Facility Registry System (FRS); and Toxic Release Inventory System (TRIS).

Network Authorization and Authentication Services
Network Authorization and Authentication Services (NAAS) are a set of centralized information security services that Exchange Network partners can use to authenticate and authorize their users. NAAS provides an efficient way for Exchange Network participants to exchange data, without having to build and maintain their own security system. NAAS supports many levels of

security, from PIN/passwords to public Key Infrastructure. All NAAS operations are conducted over a Secure Socket Layer (SSL) channel using 128-bit encryption.

Node

A Node is a Web service enabled server (hardware and software) that provides a point for exchanging information over the Internet. Exchange Network Nodes can gain access to and transmit information using Web Services. In order to achieve interoperability among Nodes, all Nodes must be set up according to the Exchange Network specifications. Specifications, protocols, tools, code, and documentation for building a functioning Exchange Network Node are available at http://www.exchangenetwork.net/node/node2.0.htm.

Node 2.0

Node 2.0 refers to the newest version of the Network Exchange Protocol (v 2.0) and the Network Node Functional Specification (v 2.0).

Node Client

A Node client is an application (software code) that can generate Web service messages for using the Exchange Network. A Node client can do the following:
- Submit data in XML format to EPA or other partners using the Exchange Network and
- Request data in XML format from EPA or other partners using the Exchange Network.

Several Node clients that are very user friendly are available on the Exchange Network Web site already. More are on the way. A Node client software developer kit (SDK) is also available to help you integrate Node client requests into your proposals.

Unlike Nodes, Node clients *cannot* publish data on the Exchange Network (i.e., they cannot listen for or respond to data queries from other Exchange Network partners)

Operational Exchange Network Node

An Exchange Network Node is *operational* if it meets all of the following criteria:
- demonstrates conformance with the Network Exchange Protocol version 2.0 and Network Node Functional Specification version 2.0 by successfully passing the Node Certification Tool test suite.
- implements the minimum Exchange Network security practices (e.g., including the use of Network Authorization and Authentication Services);
- submits data in XML format to EPA or other Exchange Network partners;
- receives data in XML format from EPA or other Exchange Network partners; and
- demonstrates ability to publish data to the Exchange Network by responding to specific data queries from authorized Exchange Network partners.

Outcome

The term "outcome" means the result, effect or consequence that will occur from carrying out an environmental program or activity that is related to an environmental or programmatic goal or objective. Outcomes may be environmental, behavioral, health-related or programmatic in

nature, must be quantitative, and may not necessarily be achievable within an assistance agreement funding period.

Output

The term "output" means an environmental activity, effort, and/or associated work products related to an environmental goal or objective, that will be produced or provided over a period of time or by a specified date. Outputs may be quantitative or qualitative but must be measurable during an assistance agreement funding period.

Schema

An XML schema defines the structure of an XML document. An XML schema defines things such as which data elements and attributes can appear in a document; how the data elements relate to one another; whether an element is empty or can include text; which types of data are allowed for specific data elements and attributes; and what the default and fixed values are for elements and attributes. A set of Network quality assurance Web services is available to validate your XML documents against the schemas using a standard parser. A list of procedural and guidance documents related to schema development is available in the Flow Documentation Checklist document on the Exchange Network Website (http://www.exchangenetwork.net/dev_schema).

Schematron

Schematron is an open source application that is used for validating XML documents against business rules and returning error reports. It uses XML stylesheet (XSLT) technology. The Network Quality Assurance Services use Schematron to validate XML documents against the business rules, as well as supporting a standard parser for schema validation.

Trading Partner Agreement (TPA)

A Trading Partner Agreement (TPA) defines in writing, for specific data exchanges, the participating partners' individual and joint responsibilities in stewardship, security, and other items essential for the effective exchange of information between two or more trading partners on the Exchange Network. A TPA must be developed within six months after the exchange has begun unless a waiver is obtained. The Network Policy Framework including the TPA Procedure can be found at: http://www.exchangenetwork.net/policy/. There are a few examples posted on the exchangenetwork.net site. In the near future there will be a section on the site devoted to TPA's.

Web Form

A standard interface that can be downloaded from the Internet, a web form contains blank fields for a user to enter data and submit the form (e.g., environmental reports) to the receiver.

Web Services

Web Services are a software system designed to support interoperable machine-to-machine interaction over a network. They make it easier to conduct work across organizations regardless of the types of operating systems, hardware/software, programming languages, and databases that are being used.

Appendix C

Detailed Instructions for Submitting Proposals

Applicants for the FY 2011 Exchange Network Grant program must submit a proposal package to EPA by November 5, 2010. EPA will accept project proposals for National Environmental Information Exchange Network grants in one of two ways: 1) a proposal submitted electronically through the grants.gov website; or 2) a hardcopy mailed or delivered proposal, including one original and two copies. Applicants who submit a hard copy are encouraged to also submit an electronic courtesy copy of the proposal by email, to Ryan Humrighouse at ENGrantProgram@epa.gov. Initially, EPA will require applicants to submit a streamlined proposal which provides needed information to facilitate the evaluation of the proposed project, including, but not limited to, the SF-424, the project narrative, proposed budget, implementation plan, and qualifications of the key personnel. Only applicants with proposals that EPA selects for funding will need to submit other official forms. EPA will confirm receipt of each proposal with an e-mail to the contacts listed in the cover letter.

EPA has provided a checklist of proposal components described below at: http://www.epa.gov/exchangenetwork/grants/index.html.

All proposal packages must include the following components:

1. Cover letter (see the suggested template at the end of Appendix C) including:
   a. recipient information;
   b. project title;
   c. type of vehicle requested (grant/cooperative agreement/ Performance Partnership Grant);
   d. proposed amount of grant (broken down into direct funding and in-kind assistance if relevant);
   e. partners on the grant (if applicable);
   f. brief project summary including a statement of project goal(s);
   g. contact information for the project lead; and
   h. signature of executive level Authorized Organizational Representative (AOR).

2. SF-424 (fillable form can be obtained from http://www.epa.gov/ogd/AppKit/application.htm)

3. Project narrative including: goals, outputs with dates, outcomes, and environmental results. You must limit the project narrative to 10 single spaced pages. The ten-page limit does not include the cover letter, SF-424, description of programmatic resources and personnel, description of roles of project partners, detailed budget, or the Exchange Network Implementation plan described in section III-B. *EPA will not review pages beyond the first ten pages of the project narrative.*

The project narrative must address each of the Evaluation Criteria (Section V-A) of this Solicitation Notice. The narrative should describe the major goal or goals, outputs and outcomes, and environmental results of the two-year project. It is EPA's policy to directly link

work supported by assistance agreements to the Agency's mission and its 2006-2011 Strategic Plan's Cross-Goal Strategy of Innovation and Collaboration, Objective of "Collaborating on Common Goals." EPA will evaluate proposed work on whether its deliverables are consistent with the Strategic Plan and will lead to environmental results. To achieve outcomes that support environmental results, applicants should propose a project that contains one or more goals (for example, implement a WQX data exchange or publishing AQS data to neighboring partners) that will have outcomes supporting timely access to high quality environmental data. Projects can also support environmental results by improving the efficiency and security of data sharing (for instance, making state electronic reporting systems CROMERR compliant for priority reports). EPA will evaluate the major technical and non-technical outputs of the proposed work and the outcomes, leading to environmental results, these outputs support. The schedule of outputs should be detailed enough to demonstrate an applicant's ability to track progress toward each goal. Each proposed goal should have at least one such outcome.

Examples of project outputs might include technical products such as schema or EN data access tools and services. Non-technical outputs might include the creation of workgroups, issuance of RFPs or other major project actions or events. Examples of outcomes that support environmental results include: improving the timeliness and accuracy of environmental data; reducing the burden and costs of data management and reporting; strengthening environmental decision making by enhancing data access for environmental professionals and the public. Applicants can find a sample narrative with goals, outputs and outcomes in Appendix D.

4. Programmatic Resources and Personnel: Briefly describe the programmatic resources and personnel involved in the project for the recipient and any participating partner. Highlight any expertise or past experiences that may be particularly helpful in carrying out the project. Include biographical sketches or resumes of the lead and any partner Project Manager(s).

5. Formal Project Partners – Roles and Responsibilities and Distribution of Funds: If the proposed project involves formal project partners who will actively participate in implementing the project, provide a description of the roles and responsibilities of each partner in carrying out each of the project goals. Describe how the recipient would coordinate work among the partners using methods such as regular teleconferences, meetings, or written status reports. If the recipient plans to distribute funding to other partners, describe the method for doing so. Exchange Network grant projects that include one or more formal partners can have budgets up to $350,000.

Partnerships formed from within a single state, territorial, or tribal government (e.g., a "partnership" limited to the Environment and Public Health Departments within a state) are not eligible partnership and are limited to the $200,000 maximum funding for a single-jurisdiction grant.

6. Detailed Itemized Budget: Applicants should describe *both the total project budget and the costs associated with each major goal* **in a detailed itemized budget.** *The goal-specific budget information is important, because EPA may wish to consider partially funding some projects (i.e., funding only some goals for a project but not others).* The budget must include any relevant item listed below:

A. Personnel – List all staff positions by title. Give the annual salary of each person, the percentage of their time devoted to the project, the amount of each person's salary funded by the grant and the total personnel cost for the budget period.

B. Fringe Benefits – Identify the fringe benefit rate and total amount.

C. Travel – Specify the mileage, per diem, estimated number of in state and out of state trips other costs for each type of travel. EPA suggests that applicants include funds for travel to national, regional and area Exchange Network conferences.

D. Equipment – Identify each item of equipment to be purchased which has an estimated acquisition cost of $5,000 or more per unit and a useful lifetime of more than one year. List the quantity and unit cost per item. Items with a unit cost of less than $5,000 are supplies.

E. Supplies – Supplies include all tangible personal property other than "equipment." The detailed budget should identify categories of supplies (such as laboratory supplies or office supplies). List the quantity and unit cost per item.

F. Contractual – Identify each proposed contract and specify its purpose and estimated cost. Applicants who request in-kind services should list them here.

G. Other – List each item in sufficient detail for U.S. EPA to determine whether the costs are reasonable or allowable. List any item, such as training, not covered elsewhere here.

H. Indirect Charges – If indirect charges are included in the budget, include the approved indirect cost rate with a copy of the Indirect Cost Rate Agreement, a description of the base used to calculate indirect costs and total cost of the base, and the total indirect charges requested. **Before an applicant can incur any costs under the indirect cost category, the Indirect Cost Rate Agreement must be approved and current.** If you do not have a current rate, you may submit a copy of the submitted application to the cognizant fiduciary agency.

I. Management Fees – When formulating budgets for proposals, applicants must not include management fees or similar charges in excess of the direct costs and indirect costs at the rate approved by the applicants cognizant audit agency, or at the rate provided for by the terms of the agreement negotiated with EPA. The term "management fees or similar charges" refers to expenses added to the direct costs in order to accumulate and reserve funds for ongoing business expenses, unforeseen liabilities, or for other similar costs that are not allowable under EPA assistance agreements. Management fees or similar charges may not be used to improve or expand the project funded under this agreement, except to the extent authorized as a direct cost of carrying out the scope of work.

7. Network Implementation Plan. All state applicants must submit a document of two to three pages explaining how the applicant plans to fully implement the Exchange Network for all

regulatory and national system flows as described in Section III-B. This plan is optional for tribal and territorial applicants.

8. Additional information for inter-tribal consortium: An inter-tribal consortium applying for an FY 2011 Exchange Network Grant must include documentation that shows:

- a formal partnership exists among the Indian tribal governments that are members of the inter-tribal consortium, and the majority of the members are federally recognized Indian tribes; and,
- the consortium's federally recognized tribal members have authorized the consortium to apply for and receive assistance from the Exchange Network Grant Program.

EPA will notify applicants of its selection decisions in or around March 2011. At the time, the Agency will request additional documentation, including other official forms, from successful applicants. The notification letters will include further instructions to those applicants for submittal of additional or updated documents. Required forms in PDF format can be obtained at http://www.epa.gov/ogd/AppKit/application.htm. EPA plans to award all grants by July 2011.

Submitting a Hard-Copy Proposal Package

Applicants should submit one original and two paper copies of all of the documents listed in this appendix. Hard-copy proposals must be postmarked or delivered to an overnight mail or courier service at or before 11:59 PM (Eastern Standard Time) on November 5, 2010. *EPA recommends the use of overnight delivery or courier services to reduce the chance of delays.* Applicants should send their hard-copy proposals to one of the following addresses depending on the delivery method:

Mailing Address:	**Physical Address** (*for overnight, or courier deliveries*):
Ryan Humrighouse	Ryan Humrighouse
U.S. Environmental Protection Agency	U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW, (2823-T)	1301 Constitution Avenue, NW
Washington, DC 20460	6th Floor, Room 6416E
	Washington, DC 20004

Applicants who submit a hard copy are encouraged to also submit an electronic copy of the proposal by email, to Ryan Humrighouse at ENGrantProgram@epa.gov.

EPA will provide electronic acknowledgement of receipt of each proposal. If you do not receive acknowledgement of receipt from EPA regarding the submission of your grant proposal within 30 days of the proposal deadline, please contact Ryan Humrighouse, Exchange Network Grants Manager, at (202)-566-1680 or humrighouse.ryan@epa.gov. Failure to do so may result in your proposal not being considered. Please retain documentation that shows that you submitted your proposal by the deadline.

Submitting an Electronic Proposal Package through Grants.gov

Electronic proposal packages can also be submitted through the grants.gov Web site, http://www.grants.gov. The Funding Opportunity Number for this announcement is **EPA-OEI-11-01**. Electronic applications must be submitted to this Web site by 11:59 pm on November 5, 2010. EPA advises applicants to submit their electronic applications early, so that if any technical difficulties arise, there will still be time to address them before the application deadline.

If you wish to apply electronically via grants.gov, the electronic submission of your proposal must be made by an official representative of your institution who is registered with grants.gov and authorized to sign applications for Federal assistance. For more information, go to http://www.grants.gov and click on "Get Registered" on the left side of the page. *Note that the registration process may take a week or longer.* If your organization is not currently registered with grants.gov, please encourage your office to designate an AOR and ask that individual to begin the registration process as soon as possible.

To begin the proposal process under this grant announcement, go to http://www.grants.gov and click on "Apply for Grants" on the left side of the page. Then click on "Apply Step 1: Download a Grant Application Package" to download the Adobe viewer and obtain the application package. **To apply through grants.gov you must use Adobe Reader applications and download the compatible Adobe Reader version** (Adobe Reader applications are available to download for free on the Grants.gov website. For more information on Adobe Reader please visit the Help section on grants.gov at http://www.grants.gov/help/help.jsp or http://www.grants.gov/aboutgrants/program_status.jsp).

Once you have downloaded the viewer, you may retrieve the proposal package by entering the Funding Opportunity Number, EPA-OEI-10-01, or the appropriate CFDA number (CFDA 66.608), in the appropriate field. Then complete and submit the proposal package as indicated. You may also be able to access the proposal package by clicking on the Application button at the top right of the synopsis page for this announcement on http://www.grants.gov (to find the synopsis page, go to http://www.grants.gov and click on the "Find Grant Opportunities" button on the left side of the page and then go to "Search Opportunities" and use the "Browse by Agency" feature to find EPA Opportunities.

Please be sure to review the additional instructions below before applying electronically under this announcement through use of grants.gov that are available for download on grants.gov.

Proposal materials submitted through grants.gov will be time/date stamped electronically. If you have not received a confirmation of receipt from EPA (not from grants.gov) within 30 days of the application deadline, please contact Ryan Humrighouse, Exchange Network Grant Program Manager, at (202)-566-1680 or humrighouse.ryan@epa.gov. Failure to do so may result in your application not being reviewed.

Grants.gov Application Preparation and Submission Instructions
Document 1: Prepare your cover letter as outlined above (see #1 under Application Materials and suggested format at the end of this appendix) and save the document to your computer as an

MS Word file. (U.S. EPA prefers to receive documents in MS Word 97, 2003.) To add the cover letter, click "Add Optional Project Narrative File" and then attach your document (previously saved to your computer) using the browse window that appears.

Document 2: Prepare your list of federally and/or non-federally funded assistance agreements as outlined above (see # 2 under Application Materials) and save the document to your computer as an MS Word file. To add the list of previous assistance agreements, click "Add Optional Project Narrative File" and then attach your document (previously saved to your computer) using the browse window that appears.

Document 3: Prepare your Project Narrative as outlined above (see #3 under Application Materials) and save the document to your computer as an MS Word file. When you are ready to attach your Project Narrative to the application package, click on "Project Narrative Attachment Form," and open the form. Click "Add Mandatory Project Narrative File," and attach your Work Plan (previously saved to your computer) using the browse window that appears. You may then click "View Mandatory Project Narrative File" to view it. Enter a brief descriptive title of your project in the space beside "Mandatory Project Narrative File Filename;" the filename should be no more than 40 characters long. When you have finished attaching the necessary documents, click "Close Form." When you return to the "Grant Application Package" page, select the "Project Narrative Attachment Form" and click "Move Form to Submission List." The form should now appear in the box that says, "Mandatory Completed Documents for Submission."

Document 4: the Detailed Itemized Budget – using the "Budget Narrative Attachment Form," click on the appropriate form and then click "Open Form" below the box. The fields that must be completed are highlighted in yellow. Optional fields and completed fields will be displayed in white. If you enter an invalid response or incomplete information in a field, you will receive an error message. When you have finished filling out each form, click "Save." When you return to the electronic "Grant Application Package" page, click on the form you just completed, and then click on the box that says, "Move Form to Submission List." This action will move the document over to the box that says, "Mandatory Completed Documents for Submission."

Documents 5-8: These documents are listed in the "Optional Documents" box, but *please note that these "optional" documents must also be submitted as part of the application package, if applicable to your organization.* You are required to submit Document 5 – Negotiated Indirect Cost Rate Agreement – if you have included any indirect costs in your proposed budget. If you do not have a current agreement, please submit a copy of a submitted application to your cognizant fiduciary agency. You must submit Document 6 – Resumes for Project Manager(s). All state agencies are required to submit Document 7 – Network Implementation Plan. This plan is optional for tribal and territorial applicants. An inter-tribal consortium applying for an FY 2011 Exchange Network Grant must include additional documentation in the "Optional Documents Section". To attach Documents 5-8, use the "Other Attachments Form" in the "Optional Documents" box. After attaching the documents, please remember to highlight the "Other Attachments Form" and click "Move Form to Submission List" in order to move the documents to the box that says, "Optional Completed Documents for Submission."

Once you have finished filling out all of the forms/attachments and they appear in one of the "Completed Documents for Submission" boxes, click the "Save" button that appears at the top of the Web page. *It is suggested that you save the document a second time, using a different name, since this will make it easier to submit an amended package later, if necessary.* Please use the following format when saving your file: "Applicant Name – FY 2011 Exchange Network – 1st Submission" or "Applicant Name – FY 2011 Exchange Network – Back-up Submission." If it becomes necessary to submit an amended package at a later date, the name of the 2nd submission should be changed to "Applicant Name – FY 2011 Exchange Network – 2nd Submission."

Once your application package has been completed and saved, send it to your AOR for submission to U.S. EPA through grants.gov. Please advise your AOR to close all other software programs before attempting to submit the application package through grants.gov.

In the "Application Filing Name" box, your AOR should enter your organization's name and the words, "FY 2011 Exchange Network." The filing name should not exceed 40 characters (i.e., abbreviate where possible). From the "Grant Application Package" page, your AOR may submit the package by clicking the "Submit" button that appears at the top of the page. The AOR will then be asked to verify the agency and funding opportunity number for which the application package is submitted. If problems arise during the submission process, the AOR should reboot the computer before trying to submit the application package again. [It may be necessary to turn off the computer (not just restart it) or change computers before attempting to submit the package again.] If you continue to experience submission problems, the AOR may contact grants.gov for assistance at 1-800-518-4726 or email at http://www.grants.gov/help/help.jsp or call Ryan Humrighouse at 202-566-1680. You are encouraged to submit your application early, in case problems are encountered that result in delays.

Suggested template for cover letter

[Organizational Letterhead]

Mr. Ryan Humrighouse
U.S. Environmental Protection Agency
Office of Environmental Information
1200 Pennsylvania Ave., NW, Mail Code 2823-T
Washington, DC 20460

Dear Mr. Humrighouse:

I am pleased to submit the [state, tribe or territory name here] [Name of Department or Agency]'s proposal for a [**type of assistance**: grant, cooperative agreement Performance Partnership Grant or Consolidated Grant amendment], entitled [project name], under the FY 2011 Exchange Network Grant Program. This proposal is seeking [dollar amount] in direct grants funding and [dollar amount of Funds] in in-kind support. We have ['no' or number of partners] formal partners in this grant proposal. [Our partners are: name partners].

[short narrative description of project including a statement of project goal(s)]

The contact for this grant proposal is:

Name and Title of Project Lead
Name of Office or Division
Name of Department or Agency
Full Mailing Address
Phone Number(s)
Email address

If there are any questions, please feel free to call either myself or the contact named in this letter.

Sincerely,

[Name/Title of Authorized Organizational Representative]

Attachment

Appendix D

Sample Project Goals, Outputs and Outcomes

Goals

1. **Emissions Inventory System (EIS) & Greenhouse Gas (GHG) Data Flows**
Freedonia DEP has been sending NEI data to EPA using the Exchange Network. However, as EPA moves to a new database, called the Emissions Inventory System, this data flow will need to be upgraded to meet the new schema, CERS.

Freedonia requires Title V facilities to provide Greenhouse Gas (GHG) data to the state, unless they are providing data directly to The Climate Registry (TCR). Currently three Freedonia companies have agreed to supply data to TCR. The remainder of the Title V facilities must supply GHG data to Freedonia DEP annually using the same online system as NEI data. This system is called the **Permitting and Air Reporting System of Freedonia (PARSOF)**.

1.1. **Map EIS & GHG data elements** to the CERS XML Schema.
This includes detailed analysis and specifications for transferring data from PARSOF to CERS schema.

1.2. Implement the **production EIS data flow**. This includes:
- Develop the Extract, Transform and Load (ETL) process to load PARSOF data to staging tables
- Develop an EIS node plug-in to transfer the data from the staging tables to XML
- Configure the node data flow
- Test the data flow and perform quality assessment

1.3. Implement the **GHG data flow** to production.
Repeat step 1.2 with minor adaptations for GHG data.

1.4. **Improve GIS Locations** for emission points from Title V facilities, including preparation of geospatial metadata for the Latitude/Longitude Data Standard and meeting EPA's minimum accuracy of 25 meters for most points. This will improve the accuracy of data in both EIS and GHG.

This includes obtaining and entering locations and stack parameters for approximately 9,500 emission points into the PARSOF database. Some of these data will need to be transformed from the Breeze modeling software, and some obtained from paper maps and checked against aerial photos. Also if time allows, other locations and associated web applications for environmental assessment/integration may be improved.

1.5. **Add application module** to the Facility Explorer web application **to allow easy access to emission point locations** and associated data. This will be used to evaluate emission rates of surrounding major facilities within a given radius of a proposed construction project.

This is a required assessment under the Prevention of Significant Deterioration (PSD) permitting program.

Currently when a construction project is proposed, the applicant contacts DEP who then queries the database for nearby sites, and manually finds the emission point data for each site to send to the applicant. The proposed web application module will allow the applicant to run a simple query themselves, thus obtaining the data immediately, and completely eliminating the need for DEP staff to find data.

The proposed application module includes programming to load the emission point locations as sub-entities into Freedonia's Environmental Facilities Database (EFD) warehouse, request the search, do the GIS query, retrieve needed report data from EFD and PARSOF, and build the report using SQL Reporting Services. The report will include:

- **facility** name, address, and plant ID;
- permitted or potential facility-wide **emission rates** in tons per year for: SO_2, NOx, CO, Pb, PM_{10}, and (if available) $PM_{2.5}$;
- a list of **emission point locations** with XY coordinates in UTM;
- permitted or potential **emission rates** and the most recent two years of actual emissions for each emission point for: SO_2, NOx, CO, Pb, PM_{10}, and (if available) $PM_{2.5}$; and
- **stack parameters**, including stack ID, height, diameter, temperature, flow rate, emission point type, bypass stack (Y/N), and obstructed (Y/N).

2. Water Quality Exchange (WQX) Flow

The replacement database for STORET, AWQMS (Ambient Water Quality Management System) is being developed by several states and Region 8, including Illinois, Minnesota, Utah, the National Park Service, and possibly Alaska. Freedonia is planning to implement this database to replace Freedonia STORET as the state database.

2.1. **Map** the data elements to the XML Schema. This includes detailed analysis and specifications for transferring data from the state database to WQX schema.

2.2. **Implement** the data flow to CDX (EPA's Node). This includes:
- adapt the 4.1 WQX Windsor node plug-in to transfer the data from the state database to XML;
- set up and configure the node; and
- test the data flow and perform quality assessment.

2.3. **Document the flow implementation** for use by other states using AWQMS and the same type of Node. Illinois and Minnesota use a Windsor .NET node. Other agencies have also mentioned the possibility of using the Windsor Node by the time this is implemented. Freedonia DEP will develop the documentation and provide any applicable code to these other agencies for streamlined implementation.

2.4. Publish a **Web Service** which will allow applications to pull water quality monitoring data. This web service will allow applications to query water quality monitoring data from the

state's database. Initial plans are for at least two staging tables which can be populated using an automated DTS/SSIS or other script.

At a minimum, the staging tables should include the following elements and any other required elements in the WQX schema.

The output will be in WQX standard XML and include all elements in the staging tables. This grant will focus on making this work with Freedonia data. However, this can be extended later in two ways:

- add data to Freedonia's staging tables from other sources, such as USGS, the Freedonia Pesticide Monitoring database (FPEST), and raw water samples from the Safe Drinking Water Information System (SDWIS). This will allow applications to pull easily pull monitoring data from a variety of sources; or
- share the code and documentation with other states using AWQMS.

Goals, Outputs, Target Dates and Outcomes

Goal	Output	Target Date[1]	Outcome
EIS & GHG Data Flows	1.1 CERS data mapped to XML schema	Jan. 1, 2011	Increased availability of data to other Exchange Network partners
	1.2 EIS flow to EPA becomes operational	June 1, 2011	Electronic availability of standardized, timely, high quality data over the Exchange Network.
	1.3 GHG flow to EPA becomes operational[2]	Dec. 31, 2011	Electronic availability of standardized, timely, high quality data over the Exchange Network.
	1.4 Improve GIS locations & geospatial metadata for air release points[3]	Sept. 30, 2012	More accurate locations will result in better analyses for environmental assessment
	1.5 Add Assessment Module[3] to evaluate air emissions near new construction projects	Mar. 31, 2012	Improved environmental decisions & efficiency from analysis of easily accessed data
WQX [4]	2.1 Data mapped to XML schema[2]	Mar. 31, 2011	Increased availability of data to other Exchange Network partners
	2.2 Implement WQX Flow[3]	Sept. 30, 2011	Electronic availability of standardized, timely, high quality data over the Exchange Network.
	2.3 Written documentation of implementing WQX with multi-state AWQMS database	Jan. 31, 2012	Streamlined flow implementation for other agencies that use the AWQMS database
	2.4 Publish Web Service	Sept. 30, 2012	Improved analysis of water quality monitoring data

[1] Estimated Grant Period: October 1, 2010 through Sept. 30, 2012. If DEP is notified of the grant award by August 1or before, dates will be shifted so they fall within the grant period.

[2]These tasks also accomplish the following intermediate outcome:
- **Improved business processes** that facilitate **burden reduction** on the regulated community.

[3]These tasks also accomplish the following two intermediate outcomes:
- **Increased speed and timeliness of data exchange** by allowing data exchanges to happen more frequently, thereby decreasing the lag between partner systems;
- **Increased efficiency** of data exchange by reducing administrative burden, including reducing or eliminating manual intervention for tasks such as scheduling, resubmissions, or security.

[4]This goal also accomplishes the following intermediate outcomes.

- Economies of scale through shared infrastructure to achieve **reduced costs and expanded functionality**.

Please see our attached Detailed Budget which links expected investments under this agreement to each goal to support and complete the proposed work referenced in this Narrative.

Appendix E

Contracts and Subawards

Can funding be used for the applicant to make subawards acquire contract services or fund partnerships?

EPA awards funds to one eligible applicant as the recipient even if other eligible applicants are named as partners or co-applicants or members of a coalition or consortium. The recipient is accountable to EPA for the proper expenditure of funds.

Funding may be used to provide subgrants or subawards of financial assistance, which includes using subawards or subgrants to fund partnerships, provided the recipient complies with applicable requirements for subawards or subgrants including those contained in 40 CFR Parts 30 or 31, as appropriate. Applicants must compete contracts for services and products, including consultant contracts, and conduct cost and price analyses to the extent required by the procurement provisions of the regulations at 40 CFR Parts 30 or 31, as appropriate. The regulations also contain limitations on consultant compensation. Applicants are not required to identify subawardees/subgrantees and/or contractors (including consultants) in their proposal/application. However, if they do, the fact that an applicant selected for award has named a specific subawardee/subgrantee, contractor, or consultant in the proposal/application EPA selects for funding does not relieve the applicant of its obligations to comply with subaward/subgrant and/or competitive procurement requirements as appropriate.   Please note that applicants may not award sole source contracts to consulting, engineering or other firms assisting applicants with the proposal solely based on the firm's role in preparing the proposal/application.

Successful applicants cannot use subgrants or subawards to avoid requirements in EPA grant regulations for competitive procurement by using these instruments to acquire commercial services or products from for-profit organizations to carry out its assistance agreement. The nature of the transaction between the recipient and the subawardee or subgrantee must be consistent with the standards for distinguishing between vendor transactions and subrecipient assistance under Subpart B Section .210 of OMB Circular A-133 , and the definitions of subaward at 40 CFR 30.2(ff) or subgrant at 40 CFR 31.3, as applicable. EPA will not be a party to these transactions. Applicants acquiring commercial goods or services must comply with the competitive procurement standards in 40 CFR Part 30 or 40 CFR Part 31.36 and cannot use a subaward/subgrant as the funding mechanism.

How will an applicant's proposed subawardees/subgrantees and contractors be considered during the evaluation process described in Section V of the announcement?

Section V of the announcement describes the evaluation criteria and evaluation process that will be used by EPA to make selections under this announcement. During this evaluation, except for those criteria that relate to the applicant's own qualifications, past performance, and reporting

history, the review panel will consider, if appropriate and relevant, the qualifications, expertise, and experience of:

(i) an applicant's named subawardees/subgrantees identified in the proposal/application if the applicant demonstrates in the proposal/application that if it receives an award that the subaward/subgrant will be properly awarded consistent with the applicable regulations in 40 CFR Parts 30 or 31. For example, applicants must not use subawards/subgrants to obtain commercial services or products from for profit firms or individual consultants.
(ii) an applicant's named contractor(s), including consultants, identified in the proposal/application if the applicant demonstrates in its proposal/application that the contractor(s) was selected in compliance with the competitive Procurement Standards in 40 CFR Part 30 or 40 CFR 31.36 as appropriate. For example, an applicant must demonstrate that it selected the contractor(s) competitively or that a proper non-competitive sole-source award consistent with the regulations will be made to the contractor(s), that efforts were made to provide small and disadvantaged businesses with opportunities to compete, and that some form of cost or price analysis was conducted.   EPA may not accept sole source justifications for contracts for services or products that are otherwise readily available in the commercial marketplace.

EPA will not consider the qualifications, experience, and expertise of named subawardees/subgrantees and/or named contractor(s) during the proposal/application evaluation process unless the applicant complies with these requirements.

Appendix F

Checklist of Documents to Submit

The following documents are required under this Solicitation Notice and constitute the full application to EPA for assistance agreement funding. All applicable forms and documents must be submitted and validated within grants.gov, postmarked, or delivered by an overnight courier service **at or before 11:59pm on November 5, 2010**. To confirm applicant eligibility and/or applicability of any of the listed forms or documents below, please contact Ryan Humrighouse at (202) 566-1680 or Humrighouse.ryan@epa.gov.

☐ Cover Letter *[Appendix C]*
- ☐ Recipient Information
- ☐ Project Title
- ☐ Type of Assistance Vehicle identified *[Section II-B]*
- ☐ Partners, if applicable *[Section III-C]*
- ☐ Brief Project Summary
- ☐ Contact Information for Project Lead
- ☐ Signature of Executive as Authorized Organizational Representative

☐ Standard Form 424 *[www.epa.gov/ogd/appkit/application.htm]*

☐ Project Narrative *[Sections I-D through F]*
- ☐ No more than 10-page, single-spaced. *[Limit does not include Implementation Plan]*
- ☐ Must address Evaluation Criteria *[Section V-A]* and link activities to results/outcomes.

☐ Programmatic Resources and Personnel

☐ Formal Project Partners
- ☐ Project Narrative *[above]* details roles and responsibilities of lead and partners in carrying out each project goal.
- ☐ If lead will distribute funding to partners, describe methodology or state no distribution.
- ☐ Letters of support and intent included from all proposed partners.

☐ Detailed Itemized Budget
- ☐ Describe both total project budget and the costs associated with each major goal.
- ☐ If budget includes indirect costs, an approved IDC Agreement is required.

☐ Network Implementation Plan *[Section III-B-3]*

☐ Description of Inter-Tribal Consortium Eligibility *[Section III-A and Appendix C]*